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ABSTRACT

This collection of 32 reports presents information on a variety of dial access systems and addresses such specific issues as programming, promotion, evaluation, and community involvement. Individual reports discuss a public library's dial access service, a tape library of financial information, information services in child care, a teacher training demonstration project, adult and continuing education, cost-effectiveness, campus information centers, recorded health and medical information, health education resources for physicians and consumers, and telephone access to audio cartridges. (CMV)

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Dial Access: A Way To Spread Your Message

University of Wisconsin—Extension
Center for Interactive Instructional Programs
June 1979

compiled by

Marcia Baird
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INTRODUCTION

Dial access is a versatile, low-cost communications tool. During the 1960's and 70's, it has proven to be one of the quickest ways to deliver specialized information to large numbers of individuals.

Growth has been widespread. Dial access systems are operating in more than 30 states, in Canada and several other countries.

Some dial access systems serve specialized audiences such as health professionals or company employees. Others serve students at community or four-year colleges. Still others offer information to the general public -- parents, gardeners, home owners, veterans, dual career families and many more.

People can simply call a dial library, request a specific tape number, listen and learn. Tape topics range from how a mortgage loan works to dramatic readings of Shakespeare's plays; from how to take care of tomatoes to controlling hypertension.

The technical components of dial access systems also vary. Some feature cartridges and modular multichanneled consoles. Others use cassettes and converted automobile playback machines or specially designed modular cassette units. Other systems feature four-inch, multi-track audio tape.

This book is an attempt to compile information on a variety of dial access systems and to address specific issues such as programming, promotion, evaluation and community involvement. This publication does not pretend to be fully inclusive of all activity in this field, but rather it is a starting point. Hopefully, it will serve as a practical resource book for those who want to develop or refine a dial access system.

Planning and organizing this project has involved the help of many people. Special thanks must go to those who prepared papers for this publication. Thanks also to Dr. Lorne A. Parker, Director, Center for Interactive Instructional Programs (CIIP), for his advice and guidance, and to Dean Luke F. Lamb, Educational Communications, for his continuing support of CIIP's projects. Finally, a special thank you to the staff of CIIP and Instructional Communications Systems for their assistance.

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A PUBLIC LIBRARY'S DIAL ACCESS SERVICE

Joyce Fuller
Coordinator
Audio Visual Services
Pierce County Library
Tacoma, Washington

Public library services are under increasing scrutiny within the profession as libraries all over the nation begin to feel the pressure from tax-payers for economy and reappraisal. Many librarians, clinging to familiar means of delivering services, are inclined to use this testing climate as an excuse to avoid exploration of new media, even as a rationale for retreat to old, traditional methods.

Other professionals, however, are beginning to see what should have been apparent for some time - that people in contemporary society absorb information from many sources other than print. Aural and visual experiences feature more strongly than print in many people's lives from childhood on. In times when serious decisions must be made as to on-going library services, consideration should therefore be given to ways in which the base of library use can be broadened; ways in which the library's potential in people's lives can be illustrated; and ways in which the library's core of services can be reinforced.

Use of the telephone as a means of delivering library service has demonstrated a tremendous potential. It allows an accessibility to large numbers of people which is not possible with more traditional media while providing a range of possibilities unique to the format and compatible with the library's objectives. The system's characteristics have already produced success in the area of information and recreational services for the blind, homebound and handicapped; in supplementing local educational efforts with course work for the independent learner, and in making possible on-going, updated community information services from agencies devoted to filling human needs.

Most importantly, there has been no indication that our successes could not be duplicated by similar institutions anywhere.

Background

The Pierce County Library has been involved with dial access programing since 1975 due to the conviction and foresight of the director, Mrs. Carolyn Else; the beneficence of a private donor, the Tenzler Foundation; and the efforts of the library's Audio Visual Department, headed by Joyce Fuller.

The Pierce County Rural Library District is a non-profit public library with branch libraries in communities in Pierce County, Washington. Situated in the Puget Sound area of western Washington, the area served is 1,600 square miles and excludes the only large city, Tacoma. It is a largely suburban area but with a significant portion still quite rural. The communities served are for the most part, small. The population of the library district is increasing rapidly as is most of the Northwest and is now estimated at 258,000. The library's income comes exclusively from property taxes with a 1979 budget of approximately $2,000,000 and per capita support of $8.00. The library district by law may levy no more than 50¢ per $1,000 of assessed valuation.

Mrs. Else, long a strong advocate of audio visual developments in public library service, chose to emphasize these services in the planning of an extensive expansion of one of the branch libraries, the Flora B. Tenzler Memorial Library. Her conviction that it is the responsibility of libraries to provide a variety of approaches for the dissemination of information led to the installation in the new building of Visual Educom's Model 2400 Dial Access System capable of both in-house or off-site access.

Dial Access System

The expansion, including the original dial access equipment, was a gift of the Tenzler Foundation, as the original building had been, and the building and much of the equipment is now owned by the Friends of the Lakes District Library. The library district's responsibility was to staff, maintain and operate the system to best serve the public's needs.

In planning the audio visual elements of the facility it was clear that an experienced technical consultant was needed. The library selected Dr. Boyd Bolvin, the director of the only other like service in the Pacific Northwest, the dial access service of Bellevue Community College, known as Chester.

Armed with Dr. Bolvin's advice, an assortment of technical resources and operating instructions, and a theoretical image of the system's eventual day-to-day operations, the library's Audio Visual Department embarked on its assignment of making the dial access a successful and integral part of Pierce County Library's service. This job proved to entail years of using concepts and funds from various sources to build an integrated communications system.

Constructing the System

The Visual Educom Model 2400 Dial Access System originally cost approximately $80,000. Production equipment listed below was also purchased by the Tenzler Foundation at the same time. In 1977, the system was modified and expanded with Library Services and Construction Act funds and additional production equipment was purchased. The library was awarded this grant of $50,000 in support of a Special Audience Project aimed at exploring the use of the telephone in supplying library service to the elderly, blind and homebound.

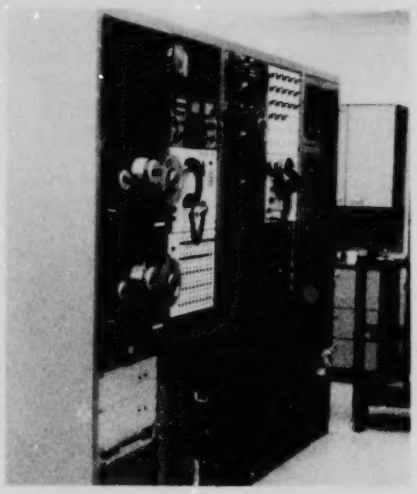
Production Equipment Purchased by Tenzler Foundation, 1974

1 Reel to reel recorder, 4 channel
(Sony TC 353D)
1 Reel to reel recorder, 2 channel
(Sony TC-388-4)
1 Reel to reel recorder, Portable
(Sony TC 105A)
1 Cassette-Corder
(Sony TC 66)
1 Turntable
(Garrard)
1 Microphone
(Electro voice RE 15)
1 Microphone stand
(Atlas)

Production Equipment Purchased with LSCA Funds, 1977

1 Reel to reel recorder
(Otari MX 5050 QXHD)
1 Reel to reel recorder
(Ampex ATR 700)
1 Turntable
(Russco Cue Master)
1 Tone Arm
(QRK S-320)
1 Portable cassette recorder
(Sony TC 158 SD)
1 Cassette Recorder
(TEAC A 170S)
1 Speaker
(Realistic MC 1000)
1 Microphone mixer
(Shure M67)
1 Microphone filter
(Shure A15 HP)
2 Microphones
(Electro voice DS 35)
2 Microphone stands
(Atlas MS 12C w/BB44)

The library now has eight telephone lines dedicated to this programing, eight four-track reel-to-reel tape decks, a weekly schedule of 26 programs (32 possible). The equipment is automatic and operates 24 hours a day, 7 days a week. If a 4-program tape deck has already been dialed into use by a patron, all other callers to that tape deck will access at that point and must wait until the last user has finished before the beginning of any one program can be heard. Equipment is accessed outside the library by touchtone telephones only.



The Visual Educom Model 2400--Only two of the five vertical racks are devoted to dial access tape decks and switching gear. The remainder holds other audio visual equipment for in-library use.

The Tenzler Library audio production area where dial access program tapes are compiled from records, cassettes and reel-to-reel sources.

Audio Visual Technician Tom Stein works at the Tenzler repair facility, surrounded by some of the equipment needed to keep audio visual services functioning.

The advantages of this equipment are:
1. users can call any time, day or night, to listen to a tape.
2. the user can call in complete confidentiality and privacy.
3. little staff time is needed to operate the equipment.

The disadvantages are several:
1. only users with touchtone telephones can reach a tape. This is only 38% of the households in Pierce County.
2. the equipment has had many technical "bugs" inhibiting incoming calls.
3. the equipment demands a technician's attention approximately 10 hours a week, plus an outside consulting engineer's time on an irregular basis.
4. many older telephone exchanges in the county are not compatible with the equipment.

Adjustment Period

The library, like any institution newly adopting sophisticated technology, was at first largely innocent of the many techical. procedural and creative snares a new system is heir to. Almost immediately budget problems developed and hoped for staff additions never came about. So, relying heavily on Audio Visual Specialist Jerry Kaufman's limited electronics background and Department Head Joyce Fuller's long library background, the project evolved.

Fortunately, the electronic engineer, Frank Champion, who had installed the equipment served as technical consultant for three years.

Also fortunately, Mr. Kaufman, assigned to develop technical frame-work for on-line telephone programing, possessed the high levels of versatility and determination the task demanded. For the first three years he acquired training and struggled to overcome a variety of shakedown difficulties, mostly unforseen even by project consultants. At the same time Mrs. Fuller, aided by intrepid secretary, Alice McPike, labored to create structures for the programing, financial and public information aspects of the project.

It was thus demonstrated that the process of transforming delivered crates of equipment into an on-going public service is greatly demanding of people, patience and imagination, and will be most viable for the well-prepared. Now four years experienced, our weekly programing and everday technical support functions have become increasingly efficient and routine, and the diversified staff is much better equipped to operate the system successfully.

Staffing

The following list includes titles of personnel involved in dial access program activities, the average hours per week dedicated to the project, and some major typical duties.
-Audio Visual Specialist (6 hours)
Production, Repair, Maintenance, Supplies, Liason with Telephone Company
-Coordinator, AV Services (3 hours)
Programing, Planning, Administration, Budget

-Audio Visual Technician (20 hours)
1979 Budget - Anticipate 10 hours weekly for transfer of tapes and 10 hours weekly for repair and maintenance of the systems.
-Electronics Engineer (on call)
Installation, Design, Troubleshoot, Train
-Support Staff (13 hours)
Purchase, Mail-Out, Recordkeeping

LSCA Special Audience Project (1 year - 1977)
-Audio Visual Specialist (40 hours)
-Audio Visual Assistant II (40 hours)
-Clerical (20 hours)

Operational Expenses

Cost to the library for support of the total dial access program is about $20,000 per year. Of this amount approximately 60% is for staffing, 15% for supply items, 7% for repair, 15% for telephone costs and 3% postage.

Programing

From the start in 1975,programing content has been broad and general, reflecting as many aspects of the total library service as possible and emphasizing information and recreation rather than structured course work. Programing of educational courses has been based on general audience interest , and college credit available through them is incidental to the library's purposes.

Programing content has included consumer information, health tips, nutrition, information on pets, interviews, old-time radio, humor, music, children's stories and songs and community college course work. Program length runs from three to thirty minutes. The most used decks have from the beginning been those that include the children's stories and songs, old-time radio, humor and popular music. Any time Bill Cosby, The Shadow, Richard Pryor, George Carlin or Linda Ronstadt is scheduled, a high number of calls can be expected.

Program material comes from a variety of sources, much directly from the library's collection of records and tapes. Broadcast Music, Inc. has granted us a blanket license for an annual fee of $50.00. Other agreements for use are requested at the time of purchase, usually granted for use on the telephone programing only - not for duplicating for general library circulation.

When appropriate releases can be obtained, we sometimes tape local speakers, forums, etc. Other programs are done specifically for us by an agency or organization such as the gardening tapes produced by the Washington State Cooperative Extension Service which have been used since the beginning. Less often, the library has produced its own programs using community agencies for resources.

Program Guides

"Just Being There" is not enough. Public access to program information must be considered early in the planning for any type of telephone service. Because the availability of touchtone telephones itself limits access to the service, the library has found it necessary to develop, maintain and update a mailing list for Program Guides. All the weekly audio tape programs are listed in a Program Guide printed once a month. The Reprographics Department of the library prints over 7000 copies of each Guide inexpensively on 20 lb. paper in one color. The library has a non-profit organization bulk mail permit that reduces postage costs considerably.

These Program Guides, serving as a major source of information about the tape programs, are distributed by a mailing list and also through agencies and organizations. Quantities of program Guides are also distributed to branch libraries throughout the library system, community colleges, doctor's offices and to the service center of the local telephone company. Cost for printing the program Guides in 1978 was $1,800. Local newspaper listings and articles are also utilized as much as possible though the library cannot pay for advertising.

Special Audience Project

It was Mrs. Fuller's belief, supported by Mrs. Else, that the telephone could provide an important link to the outside world for many homebound, blind and elderly people in the community which led to the Library Services and Construction Act grant, awarded to the library in 1977 Called the Special Audience Project, these funds allowed the development of special audio programing designed to meet the needs of the elderly, blind, hospitalized, homebound, developmentally disabled and physically handicapped persons.

This project enabled us to identify difficulties in the system that had eluded us to that point; it allowed us to expand our programing capacity and production flexibility; it proved to us the viability of the telephone in delivering library service especially to this type of audience; it documented the limitations

of the touchtone telephone versus the rotary dial telephone for access to programs in our area; it provided us with deck start counters, allowing us to verify use of the system for the first time; and it proved the advantages and necessity of adequate staffing if a commitment is to be supported.

Because the Special Audience Project proved that the telephone is an outstanding vehicle for providing library services to specialized audiences, the library is continuing most aspects of this project with regular budgeted funds.

Evaluation

Survey

A survey evaluation done for the purpose of the Special Audience Project resulted in a better awareness of the total audience served, since the Project survey was directed to the entire audience with the target audience as a component. Results of the survey, reinforcing data gathered by the library in 1976, lead to a few general, seemingly justified conclusions.

The favorite length for a program is 10-15 minutes. Afternoons and evenings are the heaviest use periods. Households listen to several programs a week. Listeners like a balance of educational, information and entertainment type programs and most listeners are also library users. Age profiles parallel library useage from pre-school to the elderly. Visually impaired persons and those who are hospitalized and homebound respond favorably to this kind of library service, while the non-English speaking community, developmentally disabled and Native American people are not represented among the users primarily because of the need for a touchtone telephone and its added cost. Program Guides distributed monthly by the library are the most effective method of publicizing the schedule tried so far.

Telephone Feedback Line

Another form of evaluation, begun with LSCA funds and continued by the library, is an automated telephone answering service available to record listener's feedback 24 hours a day.

The telephone feedback is useful in gathering listener's programing preferences, suggestions for change, names to be added to the mailing list and in pinpointing technical difficulties relating to the equipment. However, the feedback line is also very important for maintaining direct contact with how individuals feel about the programs and the service and in obtaining person-to-person kinds of feedback that aren't available in other ways. The telephone feedback line seems to have become less useful after an initial period of heavy use, this perhaps due in part to lack of staff available for follow-up.

The Telephone Company

Pierce County Library's four years of experience with dial access programing has demonstrated that the telephone is an extremely useful tool for extending library services in the community. In addition, the Special Audience Project has shown it is also useful in reaching those persons who cannot utilize regular library services. However, the unique touchtone access equipment limits the number of persons reached by this service delivery mode, and some older telephone exchanges have difficulty accessing the equipment even with touchtone. Thus losing a substantial part of our potential audience, we turned for help to those who control our medium.

An entire report could be written about our dealings with the telephone company. In attempting to identify and correct the incompatible prefixes, innumerable contacts have been made with many telephone company employees. Conflicting reports and incomplete information have been received over and over again, the effect being that more energy has been spent withholding information that in sharing it. Finally, the telephone company agreed to correct the problem of incompatible exchanges by installing frequency converters on home telephones, stating that required work will be provided, without cost, to telephone users with the problem exchanges. We have notified our users of this offer by means of the printed Program Guides.

Tape Deck Counters

Automatic counters were designed and installed for the whole system as a part of the LSCA funds, enabling us for the first time to verify use of the service. The counters record deck starts only (each deck has four individual programs) and do not reflect any calls that come into the tape after it has started. It is estimated that the "secondary" calls would boost the recorded count of calls at least 25%. It is unfortunate that deck counts don't provide information on the number of calls to specific programs which would reflect the relative popularity of

different kinds of programing.

110,000 calls were recorded for 1978 at a cost of $20,000. Costs for a branch library with 115,000 items checked out across the desk were $218,000. For the library, the dial access system seems to be proving itself as a cost effective operation, as well as a reliable method of delivering library service.

Character of Telephone Programing

For libraries much can be learned from public broadcasting services, both radio and television, which may apply to the unique nature of telephone programing - perhaps more that is applicable than comes from the traditional methods of delivering service within the library itself. Telephone programs are very personal, and listening is as intimate a process as reading. However, access to the program involves technology with its accompanying frustrations. Avoiding technological shock to the listener therefore takes staff with a different set of skills than more traditional library services require. It also takes a respect for and an awareness of the unique character of the medium.

Specifically, since the listener's comfort and satisfaction are of concern simple directions should lead to the program of choice and friendly introductions to individual programs must provide a transition and mediate the angry buzz of the accessing telephone line. The confusion arising from "dead air" when programs are of uneven length on the same tape deck should be remedied. The audio schedule of programs as a unit should have as personal a quality as a radio broadcast, and leads should be provided to programs continued on another code number.

The Future

For a variety of reasons program access by means of the touchtone telephone has limitations for users of the Pierce County Library. The search for ways of overcoming this problem has resulted in a National Endowment for the Humanities grant for 1979. This grant which will be administered by the library's Special Services Department has as a major component the extension of telephone programing to rotary dial telephones, utilizing the Teletronix Model 1510 Information System. This is an operator assisted system on cartridge tapes which will offer a permanent inventory of taped programs available by request. The focus of this grant is to provide humanities based materials and programs for older adults in rural and suburban Pierce County, especially those who are handicapped, homebound and/or institutionalized, with other out-of-school adults as a secondary audience.

If effect, the addition of rotary dial access will expand our potential audience by over 100%. Audio visual aspects of this new grant are under the supervision of the Audio Visual Department in order to ensure an integration of programs that will strengthen the whole service. The hope is for Pierce County Library to continue this type of telephone programing at the end of the funding period with regular budgeted funds and so overcome the single greatest limitation of our existing library service by telephone.

apr. 6 - apr. 12

CODE

025 GUIDE TO THIS WEEK'S PROGRAMS
026 WHAT'S NEW IN BOOKS, Dean Hampton (7)
027 OLYMPIC GAME FARM, DR. Jack Thornton, Sequim (4)
028 CAR RECALLS, Consumer Report (2)
029 POEMS FOR CHILDREN, Read by Carl Sandburg (5)
030 REMEMBER YOU'RE A WOMBLE (10)
031 RELIGIONS INC., Lenny Bruce (9)
032 BIRTH CONTROL, Planned Parenthood of Pierce County (14)
033 CONTAINER VEGETABLE GARDENS* (3)
034 FERTILIZING AND MOWING LAWNS* (3)
035 IMPROVING SOILS* (3)
036 HOW TO GRAFT A CACTUS* (3)
037 ALICE'S ADVENTURES IN WONDERLAND, Cyril Ritchard, Chapter VI
038 BOSTON BLACKIE, Old Radio Adventures (30)
039 SPOTLIGHT ON JAZZ, Cannonball Adderley (20)
040 NEIL DIAMOND'S GREATEST HITS (20)

SPECIAL AUDIENCE PROGRAMS

041 MYSELF AND OTHERS: Can't Make Anyone Love You (15)
042 THE DOCTOR TALKS ABOUT HEALTHY HAIR AND SCALP, Part 1 (14)
043 THE DOCTOR TALKS ABOUT HEALTHY HAIR AND SCALP, Part 2 (16)
044 GRASSROOTS: Midwest, Part 3 (18)
045 COUNSELINE: Male Sex Roles (5)
046 PARENTHOOD: Breast Feed or Bottle Feed ? (16)
047 EYEWITNESS: San Francisco Earthquake Part 1 (16)
048 CREATING A NEW LIFE FOR OLDER AMERICANS Maggie Kuhn, Part 1
049 DEATH AND DYING: Death, War and the Human Condition
050 THE MESSENGERS: Mass Media Lesson (14)

NOTE: The numbers in parentheses indicate the length of each tape.

apr. 13 - apr. 19

CODE

025 GUIDE TO THIS WEEK'S PROGRAMS
026 WHAT'S NEW IN BOOKS, Dean Hampton (7)
027 DECLAWING CATS, Dr. Donald Canfield, Seattle (4)
028 BARTER CLUBS, Consumer Report (2)
029 THE TEAKETTLE WHO WANTED TO SING LIKE PEOPLE, Ed McCurdy (3)
030 WHAT IS POETRY? Carl Sandburg (7)
031 NO HITS, FOUR ERRORS, Martin Mull (10)
032 BEEGEES GOLD (10)
033 POTATO CULTURE* (3)
034 CONTROLLING LAWN WEEDS* (3)
035 MAKING A COMPOST PILE* (3)
036 HOUSE PLANTS OUTDOORS* (3)
037 ALICE'S ADVENTURES IN WONDERLAND, Cyril Ritchard, Chapter VII (15)
038 DEATH AT STORM HOUSE, Old Radio Adventures (30)
039 SPOTLIGHT ON JAZZ, Stan Getz (20)
040 PIANO RAGS BY TACOMA'S JOE JORDAN, Played by Lois Delano (20)

SPECIAL AUDIENCE PROGRAMS

041 MYSELF AND OTHERS: Please Show Me the Way (15)
042 THE DOCTOR TALKS ABOUT HEARING PROBLEMS Part 1 (20)
043 THE DOCTOR TALKS ABOUT HEARING PROBLEMS Part 2 (20)
044 GRASSROOTS: Midwest, Part 4 (18)
045 COUNSELINE: Divorce: It Could Happen to Us (15)
046 PARENTHOOD: The Involved Father (13)
047 EYEWITNESS: San Francisco Earthquake Part 2 (14)
048 CREATING A NEW LIFE FOR OLDER AMERICANS Maggie Kuhn, Part 2
049 DEATH AND DYING: The Death System
050 THE MESSENGERS: Mass Media Lesson (15)

NOTE: Please record your opinions, comments & ideas on the feedback line. Phone: 584-8988.

Sample Brochure for Pierce County Library Program

TEL-LAW OF ORANGE COUNTY

History, How To's, Hot Tips

Richard Vallens
Media Coordinator
Legal Aid Society of Orange County
Santa Ana, California

At five thousand calls per month, its the most successful dial-access legal information system in the United States.

Tel-Law of Orange County, California, offers 89 recorded cartridge tapes on legal subjects, accessable 24 hours every day through ten phone lines into a professional answering service. Legal information is provided that helps callers determine if they have a legal problem and whether or not they should consult an attorney. Often the tape provides all the basic information a caller needs. And if not, callers are referred to the Lawyer Referral Service of the local bar association (or the local Legal Aid Society) for further help.

This paper will discuss an almost effortless method of brochure distribution (200,000 in 1978), a no-cost technique for achieving widespread publicity and a community sponsor which pays 90% of Tel-Law's operating cost. Interspersed with these highlights is detailed information on staffing, equipment, answering service contracts and operating tips. Included is a section on translating program material into Spanish and an appendix which contains sample public service announcements, the Orange County Tel-Law Brochure and a sample answering services contract.

A Little History...

The 23 Tel-Law licensee systems in operation across the United States are the children of two parents: the Riverside County and the San Bernardino County (California) Bar Associations. These two bar associations created Tel-Law and went "on the line" with the original system in 1975. Tel-Law, Inc., a non-profit corporation, was formed in 1977 by the original two bar associations to handle administration of the growing library (now 101) of tapes and the increasing number of licensees. The original Tel-Law, Inc., master scripts are based on California law, but have been adapted of use by individual licensees in many other states.

Tel-Law of Orange County, which this paper discusses, was the first licensee of the of the Riverside-San Bernardino program. The Orange County system is operated jointly by the Orange County Bar Association and the Legal Aid Society of Orange County, with funding provided by a private business donor.

System Start Up

Content for most of the Orange County Tel-Law tapes was taken directly from the original Riverside-San Bernardino scripts. Most tapes were accepted "as is" after review by a Bar Association / Legal Aid committee. Some tapes, such as those referring to Legal Aid Society, the Lawyer Referral Service or local welfare agency procedures were modified to reflect local considerations. Other tapes, primarily on public assistance and welfare topics, were written from scratch to fill gaps in the original master library tape package. There are now 16 tapes used exclusively in Orange County.

Once the decision to bring Tel-Law to Orange County was made by the Bar Association/ Legal Aid, specifications for equipment and answering services were prepared and sent out to local answering services. Two bids for operating Tel-Law were received back.

A major problem in starting any dial-access system--capital to cover the cost of playback decks (about $12,000)--was solved by the successful answering service proposal described in the following section.

Funding

It *is* possible to have a dial-access system privately funded. Tel-Law of Orange County is currently funded by First American Title Insurance and First American Trust Company, of Santa Ana. They pay for the answering service and for the printing of brochures--costs which amount to 90% of operating expenses.

Potential sponsors were offered an attractive way of creating widespread goodwill in the business and private community. In Orange

County, the current sponsor is identified on all brochures and by these words at the start of each tape: "Tel-Law is a public service project made possible through a grant by the First American Title Insurance and the First American Trust Company."

If the potential sponsor derives business from attorneys, as First American Title Insurance Comapny does, this could be an important point in selling sponsorship. Further, a sponsor can create goodwill with local lawyers and with the bar association by sponsoring a Tel-Law program.

When considering a Tel-Law system for Orange County, capital to pay for playback machines, tape narration and answering services was a major problem to solve. The financial solution came in a proposal submitted by Tel-Tape systems (Costa Mesa, California).

Tel-Tape proposed having a private, non-law related community sponsor for the Tel-Law program. Further, they had a particular financial institution in mind which was willing to underwrite the proposed monthly operating costs of answering and promotion services.

Tel-Tape also offered to supply playback machines as part of their proposal, since their company's business was that of providing answering, narration, promotion and developmental services for dial-access systems.

Because of their offer to provide equipment and secure financial support for Orange County's Tel-Law program, a contract was awarded to Tel-Tape Systems for Tel-Law's operation.

After one year of sponsorship (1976), the original funding source withdrew its support. The Bar Association assumed financial responsibility ($1500 monthly) for three months until a new sponsor was found.

During this period, the contract for answering services was switched to Telephone Answering Bureau, of Santa Ana, (T.A.B.), at a great financial savings (33%). T.A.B. also offered to supply tape playback equipment as a part of answering services. Thus, Tel-Law of Orange County continued to operate without any capital expense for purchase of tape playing equipment.

The only problem encountered with outside (answering service) ownership of playback equipment came in January, 1979, when the ten-deck playback unit at T.A.B. broke down completely and required major repairs. Though most repair people stated that total replacement of the Tel-Law machine was necessary, the answering service was most reluctant due to the $14,000+ cost of new equipment. The entire Tel-Law system was off the air (remember: 5000 calls per month) for six weeks while the old machine was finally repaired by a firm specializing in broadcast electronics.

Operating and Development Costs

Telephone Answering Bureau currently receives $1,000 monthly for supplying a ten-line playback machine and for answering up to 7000 monthly tape requests 24 hours per day. T.A.B. also submits weekly tallys of calls received, and mails individual Tel-Law brochures (about 30-40 per week) to people who request them over the phone.

Answering services alone, without the provision of playback units, are available locally for approximately $50 per line per month, or a total of $500 for Orange County's ten-line system.

Incidental monthly costs for tape replacement due to wear or legal revisions run about $50. The Orange County Bar Association assumes this expense, as well as a $20 monthly program support fee that is paid for use of the master-library tapes.

Cartridge tapes cost $9.75 each, and are supplied by Teletronix Corp. Additional one-time charges of $10.25 are made when a new tape (never before ordered) is picked up from the master library. Cost of narrating a completely original tape runs a total of $40.

Tape playback machines, installed, cost $7925 for five-line capability and $13,640 for ten-line capability. This price includes tape-decks, electronics and telephone coupling equipment. These machines are also Teletronix products (108 Orange Street, Redlands, California).

Lease plans are also available, and run $270 monthly for a five-deck unit and $475 monthly for a ten-deck unit.

Brochure printing costs are paid by the financial sponsor and are discussed in the Publicity section of this paper.

Answering Equipment and Services

A single phone number--(714) 834-1760--is used in all Tel-Law promotions. It is toll-free from almost every part of Orange County. Calls are received at Telephone Answering

Bureau on ten phone lines devoted exclusively to Tel-Law. The ten-line playback unit uses continuous loop broadcast quality cartridges. These are duplicated from reel to reel masters produced at the Teletronix studio.

Teletronix playback machines must be used with Tel-Law tapes, since Teletronix has been granted the exclusive marketing agreement for Tel-Law tapes throughout the United States. The only real equipment decision is how many playback decks to purchase (one through fifteen).

The answering service handling Tel-Law states that a ten-line machine is desirable for the call volume currently being experienced in Orange County (5000 monthly from a population base of 1,708,000). Only seven or eight lines are typically operational, however, due to the run-down condition of the playback machine. During peak calling periods the answering service says there are times when all lines are in use.

Teletronix has offered to update all early-model machines to current specifications for a cost far below that of a new machine. Orange County machines are not covered by this offer, however, because they were purchased used.

Current models manufactured by Teletronix are claimed to be far more reliable due to solid state circuitry, plug-in componets and electronics which eliminate the necessity of using couplers supplied by the phone company.

Regarding call volume, three daily peaks seem to occur. The first peak is from noon to 2 p.m., the second between 3:30 and 4:30 p.m. and the third between 5 and 8 p.m.

Administration and Staffing

Tel-Law of Orange County is a joint project of the Orange County Bar Association and the Legal Aid Society of Orange County. Day to day supervision is provided by a C.E.T.A. (Comprehensive Employment Training Act) employee working out of the Legal Aid office in Santa Ana. This person orders new tapes, distributes locally originated scripts for legal review, develops new tape scripts with attorney assistance, keeps call records, monitors the answering service for proper performance and acts as liason between the bar association and the Legal Aid Society. Total employee time consumed by Tel-Law is eight to ten hours per week.

All bills are paid through the bar association, which receives a monthly check from the financial sponsor.

Tape Management

Eighty-nine tapes are currently offered in Orange County. Sixteen are exclusively Orange County tapes, and four of these have been translated into Spanish. The balance of the tapes come from the Tel-Law, Inc., master library, to which a $20 monthly program support fee is paid.

Tapes have a lead-in sentence indicating that Tel-Law is supported as a public service project by a grant from a local sponsor.

Tapes also have a standard trailer: "If you need an attorney and don't know one, call Lawyer Referral Service at 835-8811. If you need an attorney and can't afford one, call Legal Aid Society at 835-8806."

Accuracy on all locally originated tapes is checked by Legal Aid or Bar Association attorneys at the start of each year (when most law changes go into effect) and during the year whenever warranted. Accuracy on master library tapes is checked at least once each year by attorneys from the San Bernardino-Riverside Tel-Law Committee. All revised scripts and tapes are distributed by Teletronix.

The following disclaimer is included on all brochures: "While not a substitute for an attorney, the general information contained in the Tel-Law library can answer basic questions about the law and clarify doubts about when and if a lawyer is needed. Tel-Law, however, may not cover everything you need to know in a particular situation. The law changes constantly and there may be exceptions to some of the general information presented here. For your own protection in a particular situation, consult a private attorney or Legal Aid if you have questions."

Most Popular Tapes

Five tapes consistently rank highest in call volume and together account for approximately 30% of total requests received. In order of popularity, they are: #15 Tenant Rights and Responsibilities, #55 Marijuana Law: The Recent Changes, #15a Eviction Procedure, #16 Landlord Rights and Responsibilities, and #6 Dissolution of Marriage.

Other popular topics are bankruptcy, wills, distribution of property in a dissolution (divorce) and how to find a lawyer.

Spanish Translations

Persistant effort towards translating the 15 most popular tapes into Spanish has resulted in a great deal of frustration. Only four Spanish tapes currently run on the Orange County system.

The following tips are passed on for the benefit of those who might attempt Spanish translations. Suggestions are directly from actual experience.

- Hire a foreign born and educated Spanish speaker to do translations, and check completed translations with other Spanish speaking people to be sure the scripts are understandable and correct. People who speak English as their first language rarely achieve the translation quality that a native speaker can produce.

- Translate scripts into gramatically correct Spanish without paying obsessive attention to prevailing idioms, dialects or slang used in your area. In Spanish as well as English, correct language is understandable even if the listener doesn't speak that way.

- Use English and Spanish whenever using a phrase such as "Office of Consumer Affairs." It is impossible to find "Oficina de Asuntos del Consumidor" in the white pages of the English phone book.

- Permanently staple, for your files, Spanish translations and their English equivalent together so there can be no mix-up about exactly what a Spanish tape says and which English script it was translated from.

Publicity

Publicity in two forms--mass brochure distribution and radio public service announcements--created 60,000 Orange County tape requests in 1978.

Initial kick-off publicity in December, 1975, included news releases, a press reception and the distribution of stacks of brochures to every interested agency in Orange County (such as police departments, welfare offices and community centers). Additional press releases were later distributed along with tape lists for willing newspapers to print.

Brochures

In addition to mass "drop offs", another brochure distribution system is currently employed: real estate sales people. The sales team of First American Title Insurance Company, the current funding source, offers brochures free of charge to real estate firms. Real estate personnel for these firms then distribute the brochures on a mass basis as a way of providing community service (and meeting people who will eventually list their homes for sale...).

This method of distribution has been remarkably successful. Fifty thousand brochures are printed every three months and the demand far exceeds the supply. First American Title Insurance gains community and professional recognition for supporting a very popular community service, and the Tel-Law program is actively promoted without attention or effort from the C.E.T.A. coordinator who oversees the program on a day to day basis.

Brochures are 8 1/2 x 11, printed both sides and folded into thirds. (See brochure sample following this paper.) Printing cost ($700 for 50,000, or 1.4¢ each) is paid entirely by the funding source.

Public Service Announcements

Radio public service announcements (PSAs) have also been used with great effectiveness in promoting Tel-Law in Southern California. PSAs have been prepared in 10-15-20-30 second lengths to meet individual station requirements. These brief messages are run free by the stations as a public service.

One powerful and popular Orange County AM radio station has reported that they get more positive feedback (and listener calls asking for a repeat of the Tel-Law phone number) on Tel-Law PSAs than they have for any other type of PSA they have ever run. Samples of PSAs can be found following this paper.

A simple way to learn how to do PSAs is to call one of your local radio stations and ask the public service director how to go about it. (Smaller stations are often more helpful.) Though the public service director's job *is not* to teach you to do PSAs, these very busy people will usually tell you whom to contact for further information. In the Los Angeles and Orange County area you would probably be advised to contact the Southern California Broadcasters Association, 1800 N. Highland Avd., Los Angeles, 90028, for a PSA style sheet and lists of stations and their individual requirements.

Tel-Law of Orange County has never run paid advertisements of any kind, although articles are often run in Legal Aid's community newsletter (circulation 15,000) describing the system and providing tape lists.

Conclusion

Tel-Law is without doubt the most cost-effective method of information distribution the Legal Aid Society and the Orange County Bar Association have ever attempted. One small Tel-Law brochure grants the public 24 hour access to a vast amount of accurate legal information. Unlike pamphlets, nothing is ever out of print or out of date.

Reaction to Tel-Law has been enthusiastic, and, from the number of complaints voiced when the playback machines recently broke down for six weeks, the system is deemed essential by the community which it serves.

Legal Aid, the bar association, the funding source, community agencies and organizations, and particularly the general public all like Tel-Law. It is a system that's in Orange County to stay.

LEGAL AID SOCIETY OF ORANGE COUNTY

2700 North Main. 11th Floor. Santa Ana. California 92701
(714) 835-8806

PUBLIC SERVICE ANNOUNCEMENT

CONTACT: RICHARD VALLENS / BARBARA BURNS
(714) 835-8806

START USE: IMMEDIATELY

STOP USE: JUNE 30, 1979

SUBJECT: FREE LEGAL INFORMATION

LENGTH: 20 SECONDS

ARE YOU GETTING A DIVORCE? HAVE YOU EVER BEEN A VICTIM OF MAIL FRAUD? DO YOU KNOW ABOUT YOUR RIGHTS AS A TENANT... AND YOUR LANDLORD'S RIGHTS?

FOR INFORMATION ON THESE, AND 68 OTHER LEGAL SUBJECTS, CALL TEL-LAW, AT 834-1760. THATS 834- SEVENTEEN SIXTY, IN AREA CODE 714.

(A MESSAGE FROM YOUR LEGAL AID SOCIETY)

Sample Public Service Announcements
Tel-Law of Orange County

• Want to find out more about the law? Hesitant to hire an attorney because of the cost?

Then call TEL-LAW, at 834-1760, for prerecorded information on 69 different legal subjects. That's TEL-LAW, 834-seventeen sixty, in area code 714.

(A message from your Legal Aid Society.)

• Many people know more about the weather, or movie stars, than they do about the laws we live under.

If you need clear, understandable answers to general legal questions, call TEL-LAW, at 834-1760, 24 hours a day, and free.

Thats TEL-LAW, 834-1760, in area code 714.

(A message from your Legal Aid Society.)

ANSWERING SERVICES CONTRACT

TEL-LAW OF ORANGE COUNTY

This first day of January, 1977, GEORGE W. SMITH ENTERPRISES, INC., dba TELEPHONE ANSWERING BUREAU, hereinafter referred to as "TAB", located at 17221 East Seventeenth St., Santa Ana, CA, and the ORANGE COUNTY BAR ASSOCIATION AND LEGAL AID SOCIETY OF ORANGE COUNTY, hereinafter referred to as the "Bar Association and Legal Aid", enter this Agreement for the provision of services by TAB to the Bar Association and Legal Aid in operation of the Bar Association and Legal Aid's TEL-LAW program.

I

The Bar Association and Legal Aid have informational tapes under license with the San Bernardino and Riverside Bar Associations whereby the public can call in and listen to a particular tape designated by number. The Bar Association and Legal Aid wish by contract to obtain a telephone answering service to provide the ncecessary equipment and personnel for performing this public service. This tape program is known as "TEL-LAW".

II

TAB will provide ten (10) telephone lines with rotary ring capability dedicated exclusively to TEL-LAW. Each line will be answered "TEL-LAW Tape Library" and be capable of playing any tape in the library. The equipment utilized will contain ten (10) channels by means of two five-channel (5-channel) multi-deck playback units capable of playing Capitol audiopak A-2 NAB Standard Cartridges at 3 1/4" per second. Services will be provided twenty-four (24) hours per day, seven (7) days a week with sufficient telephone operators to answer all calls at all times.

III

The Bar Association and Legal Aid shall supply in excess of seventy (70) prerecorded tapes capable of being played through the equipment utilized by TAB as described above. Any increase in the number of TEL-LAW tapes shall not directly cause an increase in price of the answering service except insofar as an increase in the number of tapes may result in an increase in the number of calls received.

IV

The Bar Association and Legal Aid shall have control over the content of the prerecorded tapes and brochures describing their contents and assume all liability for the content of the tapes provided to TAB and the content of the published brochures. The Bar Association and Legal Aid will indemnify and hold harmless TAB and/or its sponsors to the extent not assumed by the Riverside Bar Association or San Bernardino Bar Association for all liability in any manner arising regarding the material contained in either the tapes or brochures.

V

The current telephone number in Area Code 714 which is 834-1760 shall be the "TEL-LAW" number. The Bar Association and Legal Aid retain the right to continue use of this number under all circumstances. TAB will cooperate in the retention or use of this number to the extent of their ability to do so.

ANSWERING SERVICES CONTRACT
TEL-LAW OF ORANGE COUNTY
(CONTINUED)

VI

All prerecorded tapes provided to TAB by the Bar Association and Legal Aid shall be the property of the Bar Association and Legal Aid. No use of the TEL-LAW Library by TAB will be allowed other than the playing of tapes for TEL-LAW in response to caller requests.

VII

TAB will maintain a weekly tally of all calls on all subjects and supply same to the Bar Association and Legal Aid. Quarterly tallies of a reasonable nature may be available. TAB agrees to assist the Bar Association and Legal Aid in the performance of a telephone company busy study if such is deemed desirable.

VIII

The Bar Association and Legal Aid agree to pay the sum of one thousand dollars ($1,000) per month to TAB in advance for the first seven thousand (7000) calls each month. Calls in excess of seven thousand (7000) per month will be billed at the end of each month at the rate of seven cents (7¢) per call. TAB agrees to absorb the cost of transferring the TEL-LAW phone numbers to TAB's location.

IX

This Agreement is for a six-month (6-month) period terminating June 30, 1977.

X

The Bar Association and Legal Aid are granted an option to extend the contract for three (3) months beyond its current term during which option period TAB agrees to maintain the same pricing for sixty (60) days minimum period. This option must be exercised sixty (60) days prior to the expiration of the term. It is understood by the parties that the factors which effect TAB's pricing of the service are the cost of telephone equipment and services and wages to employee operators. The parties further agree that in the absence of a written renewal this Agreement will renew automatically for thirty (30) day periods.

XI

TAB agrees that in the event costs cause a need to increase the charge after the initial term of the agreement, the Bar Association and Legal Aid will be given at least sixty (60) days notice of such proposed change.

ORANGE COUNTY BAR ASSOCIATION

BY_____

LEGAL AID SOCIETY OF ORANGE COUNTY

BY_____

GEORGE W. SMITH ENTERPRISES, INC.
bda TELEPHONE ANSWERING BUREAU

BY_____

WHAT IS TEL-LAW?

Tel-Law is a library of taped information about the law and the justice system — free of cost or obligation. The basic information offered to the citizens of Orange County is available 24-hours-a-day, and can be obtained in the privacy of your home or office.

Each tape in the Tel-Law library has been prepared by a team of lawyers in order to make the workings of the law and the courts understandable to the average citizen.

While NOT A SUBSTITUTE FOR AN ATTORNEY, the general information contained in the Tel-Law library can answer basic questions about the law and clarify doubts about when and if a lawyer is needed. Tel-Law, however, may not cover everything you need to know in a particular situation. The law changes constantly and there may be exceptions to some of the general information presented. For your own protection in a particular situation consult a private attorney or Legal Aid if you have questions.

To use the Tel-Law library, simply call (714) 834-1760. Give the operator the number or subject of the tape you wish to hear. (See inside panels for a complete list of tapes.)

The Tel-Law library has been prepared as a legal education public service through the joint efforts of the Orange County Bar Association and the Legal Aid Society of Orange County.

A FREE PUBLIC SERVICE
AVAILABLE 24-HOURS-A-DAY
(714) 834-1760

Tel-Law

The members of the Orange County Bar Association and the Legal Aid Society of Orange County encourage all citizens to make the law work for them by learning some law.

The Tel-Law library is a public service made possible by a grant from:

First American Title Insurance Company
114 EAST FIFTH STREET,
SANTA ANA, CALIFORNIA 92701

First American Trust Company
114 EAST FIFTH STREET,
SANTA ANA, CALIFORNIA 92701

2101 SAN JOAQUIN ROAD,
NEWPORT BEACH, CALIFORNIA 92660

Tel-Law

A general information program, at no cost, to help you understand and use the legal system.

(714)834-1760

Brought to you, as a public service, by the Orange County Bar Association and the Legal Aid Society of Orange County.

Tel-Law Library (714) 834-1760

ADOPTIONS
22 Adoption information
23 Adoption agency procedures
24 Independent adoption

YOU AND YOUR HOME
7 Protecting your home from creditors
15* Tenant rights and responsibilities
15A* Eviction procedure
16 Landlord rights and responsibilities
17 Escrow — what is it
18 Trespassing — what are your rights
19 Disturbing the peace — noisy neighbors
79 Tenant rights in mobile home parks

MARRIAGE AND DISSOLUTION (DIVORCE)
6* Dissolution of marriage — what happens
65 Simplified Dissolution Procedure
21 Community and separate property — what is the difference
25 Restraining order — how to get one
26 Marriage annulment grounds — where and how
27 Custody in a dissolution of marriage
28 Child and spousal support — financial arrangements in dissolution
29 Nonpayment of child or spousal support — what to do
30 Division of property in dissolution
31 Community debts — who is responsible
32 Community debts — who pays after the dissolution
56 Legal Separation — what happens
60 Child support — how to enforce it

SENIOR CITIZENS
69 Federal tax benefits for citizens over 65
70 Sick or disabled — protect your estate
71 Auto insurance for seniors — how to obtain and keep it
72 Funeral and burial arrangements — pre-paid
73 Property tax assistance for senior citizens

*Also available in Spanish

BANKRUPTCY
4 Bankruptcy — how can it help
5 Bankruptcy — what is it

YOU AND YOUR ESTATE
11 Estate and inheritance taxes
14 Wills — why should I have one
36 Joint tenancy — what is it
37 Trusts — what are they
38 Gifts to minors

LAWYERS
1 How to find a lawyer when you can't afford one
8 Public defenders — who has a right to one
9 How to find a lawyer in Orange County when you do not know one
40 Attorneys — what to do if I want to change
82 What is Tel-Law?

CONSUMER AFFAIRS
58 Mail fraud — what to do
59 Payments to victims of violent crimes
60 Investments — how to protect yourself
61 Land purchase — protect against fraud
62 Auto repair — how to avoid the traps
63 Credit and loans — your rights and responsibilities
64 Illegal sales gimmicks — how to avoid
65 Mobile home purchase — what to ask
66 Second mortgages — how to obtain
67 New cars — how to purchase
68 Bill consolidation loan — when rights become risks
74 Credit for women — how to obtain

NEW LAWS
55 Marijuana law — the new changes

EMPLOYMENT, SOCIAL SECURITY AND OTHER SPECIAL BENEFITS
2 Injury on the job — worker's compensation
33 Welfare rights
34 Supplemental security income for blind, aged and disabled
35 Accident benefits — what is available
51 Welfare for families with children
52 Medi-Cal — when is it available
53 Food Stamps — who is eligible

CRIMINAL
8 Public defenders — who has a right to one
13 Subpoenas — what are they
20 Criminal convictions — can they be set aside
43 Criminal and civil suits — what is the difference
44 Arrests — what to do if you are arrested
45 Bail — what is it and how to get it
46 Drunk driving — is a chemical test compulsory
47 Traffic tickets — how and when to fight them
49 Witness at trial — what to do
54 Juvenile arrests — laws and procedures
55 Marijuana law — the new changes

CIVIL
3 Depositions — giving testimony out of court
10 Small claims — where and how
12* Immigration — rules and regulations
13 Subpoenas — what they are
41 Libel and slander
42 Malpractice — medical and legal
43 Criminal and civil suits — what is the difference
48 Lawsuits — what to do if a suit is brought against you
49 Witness at trial — what to do
50 Restraining orders — how to stop actions
57 Filing "in forma pauperis" — how to get court costs waived
81 Childrens' damages — when parents are liable

PLEASE REQUEST TAPE BY NUMBER

KEEP THIS PAMPHLET — IT'S YOUR TAPE GUIDE

21

PROMOTION IS SURVIVAL

Erna Carmichael
U.W. Extension, Milwaukee County Chair
Milwaukee, Wisconsin

I never cease to be amazed that thousands of people each month call our Dial-A-Mini-Message Service in Milwaukee and ask to listen to one of our recorded messages. What motivates people to listen to a recorded message? Some people, no doubt, are just curious; others are seeking immediate answers to problems. But what keeps people calling day in and day out for over three years? The answer is good, reliable information presented via a delivery system readily available to many people. To keep a recorded message service alive, people must know about the service. We promote our Dial-A-Mini-Message Service constantly!

History of Service

Before I tell you about our promotional efforts for Dial-A-Mini-Message, I would like to tell you how the service was started. The service was started in February 1976 funded by Title I of the Higher Education Act of 1965 with a budget of less than $4,000. The budget included the rent for the equipment, cost of extra telephone lines, printing of the brochures, and production of 200 recorded messages. We expected our office receptionist to handle the incoming calls. This proved impractical. Today's budget is $9,000 for operators' wages and $5,000 for expenses. It was found that it was necessary to hire a telephone operator to handle incoming requests. Office receptionists in a busy office cannot be expected to handle requests to hear the tapes in addition to their regular clerical duties. The Dial-A-Mini-Message operators, however, can handle additional simple clerical duties.

Today, we have a library of 700 taped messages. Half are Consumer and Garden tapes made by local University Extension Agents, Home Economists, Horticulturists, Youth and 4-H, Business and Community Development Agents. The other 350 tapes are the Health Line tapes made by University of Wisconsin Health Specialists.

Our service operates 8:00 a.m. to 8:30 p.m. Monday through Friday. When we first started our service, our hours ended at 4:30 p.m. We soon discovered we could increase the usage one-fourth by extending our hours until 8:30 p.m. We discovered school teachers liked to assign their students to listen to specific tapes and report on them in class the next day. One night, one young user pleaded with the operator at 4:20, "Please don't close shop yet, I still have to listen to four more tapes.

We have four incoming telephone lines, which seem to be sufficient.

Promotional Efforts

The fact that local Extension Agents, about 20 in all, wrote and recorded their messages provides built-in promoters. They have a vested interest in the project. The Agents willingly distribute the brochures listing the tapes every time they go to a meeting in five different counties. This results in a 12-month-a-year promotional effort.

We keep a record of the number of times each tape is requested and all Extension Agents who taped messages receive the monthly summary. We used to give monthly "golden tape awards" to those tapes requested 100 or more times. After about two years we discontinued this because the most popular tape the first month is still the most popular. That tape is "Food Stamps May Be For You." By the very nature of the complicated information on this tape, I suspect callers have to listen to this tape a second time to determine whether or not they are eligible for food stamps. Callers requesting food stamp eligibility requirements like to get this kind of information without identifying themselves. This is one of the nice features of recorded message services.

When our service was new, we received excellent coverage in our largest newspaper, The Milwaukee Journal. They printed our complete listing and one year later, when the service was evaluated, 31 percent of a randomly selected sample said they had heard about the

service from the newspaper.[1] Many people cut out the half-page newspaper listing and put it in their telephone book for future use. We received excellent coverage on the radio talk shows and local TV news shows. Even today, on local radio talk shows reference is occasionally made to a specific tape. For over one year, one radio station called and requested a tape and played it on the air as their Consumer Tip for the day.

One cannot expect the mass media to constantly publicize the message service. They are, however, interested in timely new tapes added to the service. Announcing a new tape in a short newspaper story is a good way to gain new users.

We print and distribute 30,000 brochures a year. Brochures are available at all libraries in our metro Milwaukee telephone areas. Brochures are available at three hospitals and at several banks and savings and loan companies.

Several large industries and two insurance companies have included our brochure in their employees' pay envelope. We are always glad when someone else helps us distribute our listing.

Eight of our Milwaukee County Board Supervisors have included our brochure in their newsletters to their constituents. They like giving away the brochures because the service is partially funded by the County, and they like to call this to the voters' attention.

We have purposely designed our brochure so it will fit into a business-size envelope. This makes it easy to include in other mailings.

We have given our brochure at the State Fair, Home Shows, shopping centers. These avenues for distributing the Dial-A-Mini-Message brochure use extremely large quantities of brochures, and we question the effectiveness of this indiscriminate distribution.

Some Welcome Wagon hostesses like to tell newcomers to the community about the message service. Supplies of the brochures are freely given to any group or teacher interested in our subject matter and has a genuine desire to tell people about our service.

Throughout the year, the Dial-A-Mini Message brochures are distributed at all the elderly nutrition meal sites. The distribution of the brochures and a short promo by the site managers are staggered throughout the year, so not all 50 sites receive the brochure the same month. This is important in order not to flood our four lines one or two months of the year. The elderly are great users of our service. Thirty-nine percent of our callers are over 50 years of age.[1]

One technique that assures usage of the service is to link specially prepared tapes to a television or radio presentation by an Extension Agent. For instance, when an Extension Home Economist presents the Best Food Buys on a TV news show, she will add, "If you'd like to have this recipe using plentiful chicken, call Dial-A-Mini-Message Service, 963-7777, and ask for TV 6 Recipe of the Month." It helps to have an unusual and attractive dish to show the audience what can be done with the plentiful food. The phones ring immediately, and, at that point, we wish we had more than four lines and four special tapes. As many as 2,000 callers may call for a particularly good recipe.

The Extension Horticulturist uses the same procedure with a formula or detailed horticultural instructions. This always helps sagging numbers.

We have tried weekly or monthly Calendar of Events for U.W. Extension program offerings, but the tapes were difficult to comprehend with so many dates, times and places, we discontinued them.

However, our Wehr Nature Center Youth Agent does tape the Calendar of Events at the Nature Center, which is changed four times a year.

The Dial-A-Mini-Message Service is listed in the telephone directory with the other Dial-A- services, including Dial-A-Prayer, Dial-A-Devotion, Dial-A-Diet, and this doesn't hurt us either.

Conclusion

Promotion of Dial-A-Mini-Message Service is a constant process. It must be planned and scheduled the year round. But the best promotion of all for a taped message service is a good high-quality product - a product that delivers reliable short messages that are accurately described by their titles. Sponsors of taped message services must constantly be on the alert for new, suitable and timely topics.

Satisfied customers tell their friends. They, in turn, tell others, and thus the service lives on.

[1]Dial-A-Mini-Message Evaluation 1976
U.W. Extension-Milwaukee County

TEL-MONEY®
TELEPHONE TAPE LIBRARY OF FINANCIAL INFORMATION

John E. Sullivan
Executive Vice President
Tel-Americall®
South Bend, Indiana

In spite of the fact that the sheer weight of communications today has produced a second "tower of Babel", we are the most informed and aware people in history.

Also, the most confused.

As a result, a credibility gap has developed. And, in too many of us, apathy.

Quietly and sometimes not so quietly an accounting is being demanded of the Establishment by a public concerned with recent environmental, consumerist, and political developments.

Recognizing this, more and more sensitive business leaders and industries are finding a need to communicate with the general public for the first time. Not only concerning just their products, but the manner in which they operate as well.

Windows are being opened on rooms of previously uninspected aspects of practically every institution and industry in the country.

Neither financial marketing nor advertising is exempt from this questioning.

Required now is new thinking about the performance of financial institutions, the function of marketing, the reliability of advertising, the responsibility of media, and the transmission of financial information.

Never before has it been so apparent that the effectiveness of financial marketing will be measured in the marketplace by a calmness, a candor, a believability introduced into personal contacts and mass communications.

This is to be accomplished by providing the facts and perspective necessary for deliberate, sane decision-making on the part of the consumer.

To do otherwise is to continue toying with the First Amendment and eventually make threadbare the economic fabric so essential to our life, our liberty, and our pursuit of happiness.

OBJECTIVES

Tel-Americall® of South Bend, Indiana developed Tel-Money® as a public affairs program to be offered by local financial institutions to address this obvious need for financial information in the marketplace. Tel-Money was designed to provide the consumer with timely, factual, easy-to-understand answers to basic questions about money management. This information is available to anyone at any time, privately, so that the consumer need not identify himself or herself.

The Tel-Money telephone information library consists of a series of short, tape-recorded messages on topics pertinent to a consumer's financial health and welfare. Anyone in the community can use Tel-Money, twenty-four hours a day and seven days a week, simply by picking up the telephone in the privacy of home or office, dialing a well-publicized number, and asking the operator to play a particular Tel-Money tape.

Each tape offers factual financial information, is approximately three minutes in length, and ends with a "credit trailer", which identifies the exclusive sponsorship of the program.

The credit tag also provides the name and telephone number of a qualified person at the sponsoring financial institution who can supply information beyond that given in the recording and help apply the information to the caller's specific need.

American consumers need this basic financial information and counseling to help them secure, maintain, and improve their economic well-being. For most consumers, managing personal financial affairs is very complex, challenging, and time consuming. This task is complicated by the apparent reluctance of many people to seek useful information or advice because of personal feelings of independence or embarrassment. A bank, savings and loan, or credit union are all qualified to address this

need by virtue of their comprehensive financial expertise, the ready accessibility of their professional staff, and their strong community orientation.

A financial institution finds it attractive to sponsor the Tel-Money Program because it offers them certain marketing advantages:

- enables them to position themselves as an honest, straight-talking financial counselor in these particularly challenging and economically uncertain times;
- differentiate themselves from all other competing financial institutions by reinforcing their image of integrity as no other competitor in the market can;
- generate additional business from their present customers and attract new business by clarifying policies and adding a new, more personal dimension to their communication flow;
- free their skilled people to perform more efficiently, more profitably by educating their customers and prospects more thoroughly and economically;
- provide their new employees and even their present ones with a "do-it-yourself" training facility they can draw from as time permits during business hours and even after hours, at their leisure;
- improve the cross-selling effort as a result of more effective salesmanship by better informed personnel;
- determine the cost efficiency of various advertising media objectively rather than subjectively by criteria you can actually document.

ORGANIZATION

The topics covered in the tape library were originally selected by Tel-Americall after conducting a research project designed to identify those subjects which commonly create confusion among consumers, elicit high volumes of questions or inquiries, or were otherwise deemed to be important. The topics were then researched and written by the Tel-Americall staff in a clear, concise form which is conducive to telephonic communication. The recordings were made by professionals, both male and female, and were tested for their ability to communicate effectively in several small consumer groups.

TEL-MONEY TAPE LIBRARY TOPICS

1. TIMELY TIPS ON MONEY FROM TEL-MONEY
2. HOW TO WRITE A CHECK
3. HOW TO ENDORSE A CHECK
4. WHAT YOU SHOULD KNOW ABOUT A PERSONAL LINE OF CREDIT
5. CHOOSE THE CHECKING ACCOUNT BEST FOR YOU
6. WHAT A CHECKING ACCOUNT CAN DO FOR YOU
7. THE SAFETY AND CONVENIENCE OF SPECIAL BANK CHECKS
8. HOW SAFE ARE YOUR SAVINGS?
9. CHOOSE THE SAVINGS ACCOUNT BEST FOR YOU
10. HOW YOUR REGULAR SAVINGS ACCOUNT EARNS INTEREST
11. HOW MUCH YOU SHOULD KEEP IN YOUR REGULAR SAVINGS ACCOUNT
12. TAX RECORDS YOU SHOULD KEEP
13. WHAT YOU SHOULD KNOW ABOUT AN INDIVIDUAL RETIREMENT ACCOUNT
14. HOW YOU CAN SAFEGUARD YOUR VALUABLES IN A SAFE DEPOSIT BOX
15. HERE'S HOW YOU CAN HELP YOURSELF SAVE MONEY
16. YOU AND YOUR CREDIT BUREAU
17. WHAT THE FAIR CREDIT REPORTING ACT MEANS TO YOU
18. HOW TO GET AND KEEP A GOOD CREDIT RATING
19. HOW A YOUNG PERSON CAN START A GOOD CREDIT RECORD
20. YOUR CREDIT RATING AND WHAT IT MEANS TO YOU
21. WHY YOU SHOULD PAY YOUR BILLS ON TIME
22. EQUAL CREDIT RIGHTS FOR WOMEN
23. HOW TO TELL IF YOUR CHARGE ACCOUNT OR CREDIT CARD IS A GOOD BUY

24. CONSOLIDATION LOANS: IS BORROWING TO PAY BILLS SMART?

25. HOW TO PROTECT YOUR CREDIT CARDS

26. PROTECTING YOURSELF WITH CREDIT LIFE INSURANCE

27. WHY YOUR COST OF BORROWING MONEY CHANGES

28. TWO WAYS YOU CAN TELL HOW MUCH YOUR LOAN WILL COST

29. HOW TO SHOP FOR AN INSTALLMENT LOAN

30. SOME HELPFUL HINTS ON HAVING YOUR LOAN APPROVED

31. WHY YOU SHOULD HAVE A WILL

32. WHY JOINT OWNERSHIP IS A POOR SUBSTITUTE FOR A WILL

33. HOW TO CHOOSE YOUR EXECUTOR

34. WHAT A TRUST CAN DO FOR YOU

35. WHAT IS A LIVING TRUST?

36. WHAT TO DO WHEN YOU OWE TOO MUCH MONEY

37. HOW TO BALANCE YOUR CHECKBOOK

38. WHAT TO DO IF YOUR CHECKBOOK DOESN'T BALANCE

39. HOW TO STOP PAYMENT ON A CHECK

40. CHOOSING YOUR FINANCIAL PARTNER

41. WHY DO YOU NEED LIFE INSURANCE?

42. HOW DO YOUR LIFE INSURANCE BENEFICIARIES COLLECT?

43. WHAT YOU SHOULD KNOW ABOUT LEASING A CAR

44. HOW EXPENSIVE A NEW HOUSE CAN YOU AFFORD?

45. HOW A MORTGAGE LOAN WORKS

46. WHAT YOU SHOULD KNOW ABOUT A CONVENTIONAL MORTGAGE LOAN

47. WHAT YOU SHOULD LOOK FOR IN THE SALES CONTRACT

48. WHAT YOU SHOULD KNOW ABOUT "ESCROW"

49. WHAT YOU SHOULD KNOW ABOUT A VA MORTGAGE LOAN

50. WHAT YOU SHOULD KNOW ABOUT CLOSING COSTS

51. WHAT ARE "POINTS"?

52. WHAT YOU SHOULD KNOW ABOUT AN FHA MORTGAGE LOAN

53. WHO SAYS YOU'RE OVER THE HILL AND A POOR FINANCIAL RISK AFTER 50?

54. THE BASIC FACTS ABOUT U.S. SAVINGS BONDS

55. WATCH OUT FOR THE "PIGEON DROP" SWINDLE

56. WATCH OUT FOR THE "BANK EXAMINER" SWINDLE

57. WHAT YOU SHOULD KNOW ABOUT DIRECT DEPOSIT OF SOCIAL SECURITY CHECKS

58. A MESSAGE FROM YOUR TELLER ABOUT CHECK IDENTIFICATION

59. WHAT CAN 24-HOUR BANK MACHINES DO FOR YOU?

60. WHAT YOU SHOULD KNOW ABOUT BANK FARM MANAGEMENT

61. CAN BANKRUPTCY HELP YOU?

62. HOW TO TAKE VOLUNTARY BANKRUPTCY

63. SHOULD YOU REFINANCE YOUR HOUSE?

64. WHAT TO DO IF YOU LOSE AUTO INSURANCE COVERAGE

65. WHAT IS SUPPLEMENTAL SECURITY INCOME?

66. WHAT TAXES WILL HAVE TO BE PAID WHEN YOU DIE?

67. WOULD YOU KNOW "BAIT AND SWITCH" IF IT HAPPENED TO YOU?

68. HOME IMPROVEMENT SWINDLES

69. KNOW WHAT YOU'RE DOING WHEN YOU SHOP BY MAIL

70. MAIL FRAUDS TO AVOID

71. ARE YOU BEING TAKEN BY A HOMESITE FRAUD?

72. SMALL CLAIMS COURT AND HOW TO USE IT

73. HOW MUCH ARE YOU WORTH?

74. HOW TO BORROW MONEY FOR YOUR NEW CAR

75. TWO WAYS TO BORROW FOR YOUR COLLEGE EDUCATION

76. HOW TO TEACH YOUR CHILD TO SAVE MONEY

77. HOW TO BORROW FOR HOME IMPROVEMENTS

78. YOUR DECISION: TO BUY OR RENT?

79. WHAT TO LOOK FOR WHEN BUYING A CONDOMINIUM

80. WHAT YOU SHOULD KNOW ABOUT A KEOGH RETIREMENT PLAN

81. WHAT IS TELEPHONE FUNDS TRANSFER?

82. AUTOMATIC TRANSFER SERVICE

Each sponsoring financial institution reviews the Tel-Money Master Library and selects those topics which they feel are appropriate for their market area. The sponsor also has the opportunity to revise the Tel-Money Master Library scripts, create unique messages, or have Tel-Americall research, write, and record new master library scripts. This almost constant review process keeps the information in the Tel-Money library current.

The sponsor also decides upon the credit trailer that will be recorded for the end of each message. The credit trailer first of all identifies the sponsoring organization and then offers the name and telephone number of someone at the sponsoring bank, savings and loan, or credit union who can further assist the caller.

Many sponsors have dedicated a telephone number and person at the institution to respond to all the specific inquiries developed by the Tel-Money trailer.

Other sponsors use a variety of reference people depending upon the content of the message. For example, trailers on home buying tapes would refer the caller to someone in the mortgage loan department, the trailer on trust tapes to someone in the trust department, and so on.

After the tape review, selection, and recording process is completed, the necessary telephone lines and tape playback equipment are installed. The sponsor has the choice of where to install and operate the equipment but most often, they will choose to have a local telephone answering service operate Tel-Money for them twenty-four hours a day, seven days a week.

Having a telephone answering service operate the Tel-Money Program is attractive to a financial sponsor because so often a person is reviewing personal finances, buying a car, or thinking about a loan in the evening when most financial institutions are closed. At a time like this, there is no other place to turn for assistance.

The Tel-Money operator's function is to simply answer the call in a courteous voice, "Tel-Money. May I help you?", and then to insert the requested tape in the equipment. The playback equipment plays the message, cycles the tape, and signals the operator when the message has played and is ready to be returned to the storage compartment. If any specific questions are asked, the operator will refer the caller to the general information number at the sponsoring financial institution.

IMPLEMENTATION

The actual implementation of the Tel-Money Program involves careful coordination among the elements of a four-phased process.

In the first implementation stage, the Building Awareness phase, the Tel-Money service is introduced to the public. The sponsoring financial institution will make extensive use of its advertising and promotional materials in accordance with its overall advertising plan. Equally important, execution of the public relations plan -- often times highlighted by an introduction day press conference and a series of press releases, all of which contribute greatly to creating awareness of Tel-Money among consumers. Also in this phase, the pre-introduction staff training bears fruit in the form of communication between bank employees -- interested and excited about being able to offer a brand-new service -- and their customers.

The advertising campaign for the Tel-Money Program generally involves a statement stuffer (Fig. 1) listing all of the topics available to the caller. This statement stuffer is mailed to all of the present customers to enhance the sponsor's relationship with them and to cross-sell services. This same brochure is also distributed by means of point-of-purchase displays in all the sponsor's lobbies and made available upon request to local schools and civic organizations who routinely ask financial institutions for consumer information material.

Other advertising approaches are most often related to the print media where a listing of all the topics is possible. A simple two-column full page newspaper ad is an attractive way to list all the topics in the Tel-Money library and because many of these topics refer to unique products, the ad will also simultaneously promote them.

Sponsors have also included the Tel-Money telephone number and appropriate tape titles in their newspaper ads promoting specific products and services. This gives the reader an opportunity to immediately learn more about the service, even though the institution may be closed by simply calling Tel-Money and listening to the messages.

Now, from the privacy of your home or office

timely tips on money

TEL-MONEY

Please specify the tape by number

1. Timely Tips On Money From Tel-Money.
2. How To Write A Check.
3. How To Endorse A Check.
4. What A Checking Account Can Do For You.
5. Choose The Checking Account Best For You.
6. How To Balance Your Checkbook.
7. What To Do If Your Checkbook Doesn't Balance.
8. How To Stop Payment On A Check.
9. Choose The Savings Account Best For You.
10. How Your Regular Savings Account Earns Interest.
11. How Much You Should Keep In Your Regular Savings Account.
12. How Safe Are Your Savings?
13. The Basic Facts About U.S. Savings Bonds.
14. The Safety And Convenience Of Special Bank Checks.
15. A Message From Your Teller About Check Identification.
16. What Can 24-Hour Bank Machines Do For You.
17. What You Should Know About Direct Deposit Of Social Security Checks.
18. What Is Supplemental Security Income?
19. How You Can Safeguard Your Valuables In A Safe Deposit Box.
20. How To Protect Your Credit Cards.
21. You And Your Credit Bureau.
22. How To Get And Keep A Good Credit Rating.
23. How A Young Person Can Start A Good Credit Record.
24. Your Credit Rating And What It Means To You.
25. Protecting Yourself With Credit Life Insurance.
26. Watch Out For The "Pigeon Drop" Swindle.
27. Watch Out For The "Bank Examiner" Swindle.
28. Would You Know What To Do If This Happened To You?
29. Home Improvement Scams.
30. Know What You're Buying When You Shop By Mail.
31. Are You Being Taken By A Home Equity Fraud?
32. How To Choose A Credit Counselor.
33. How To Deal With Credit Card Abuse.
34. Here's How You Can Help Yourself Save Money.
35. Two Ways To Borrow For Your College Education.
36. Why The Cost Of Borrowing Money Changes.
37. Some Helpful Hints On Having Your Loan Approved.
38. What Are "Points"?
39. How A Mortgage Loan Works.
40. What To Look For When Buying A Condominium.
41. What A Trust Can Do For You.
42. What Is A Living Trust?
43. What You Should Know About "Escrow".
44. Why You Should Have A Will.
45. How To Choose Your Executor.
46. Why Joint Ownership Is A Poor Substitute For A Will.
47. What You Should Know About An Individual Retirement Account.
48. What You Should Know About A Keogh Retirement Plan.
49. Why Do You Need Life Insurance?
50. Tax Records You Should Keep.

The TEL-MONEY Tape Library
is presented as a public service in the
Oak Park area exclusively by

OAK PARK TRUST & SAVINGS BANK

Figure 1

Another economical method used to promote Tel-Money is to list the topics in a quarter-page ad in the Yellow Pages of the telephone directory (Fig. 2). This listing insures that any home or office having a telephone will also receive a listing of the tapes. This is important because the sponsor now simply adds a single line to his newspaper ads saying "For timely tips on money, see page 00 of the Yellow Pages". The sponsor also uses radio and television commercials to refer the audience to the Yellow Page listing of tape topics.

Pamphlets, magazines, envelopes, direct mail postcards, telephone book stickers, posters, and bookmarks are just a few of the many other methods developed by professional marketing departments to make the list of topics available to the public.

The second Tel-Money action phase, Initial Response, involves placement of a call to the tape library by an aware consumer. The answering service operator, trained to answer each of the incoming lines and to prompt the caller for a tape number or topic if necessary, plays the requested message using the tape playback equipment. The caller listens to the requested, factual, easy-to-understand recording which ends with the credit tag identifying the sponsor, naming the person to call for further information or assistance, and giving the specific telephone number.

Action phase three, completing the Personal Data Card (Fig. 3), encompasses the process by which the sponsor responds to calls developed by the credit trailer. Depending upon the nature of a caller's inquiry, several types of responses are possible. Basic questions are answered over the telephone, and in many cases, the relevant Tel-Money script reprint, appropriate service brochure, or new account signature cards are mailed to the caller.

Where the caller's need is especially complex, or if the caller is a highly qualified new business prospect, it can be arranged for one of the specially trained line division officers assigned to the Tel-Money Program to call or meet with the consumer at his or her convenience.

The fourth action phase involves those situations where customers or prospects are referred to line division officers, or Customer Service Representatives, for Tel-Money generated sales or service contacts. Records of these contacts are maintained on the Personal Data Card.

MEASURING RESULTS

Since one of the primary benefits of the Tel-Money Program is to enhance the image of the sponsor, the results are often difficult to measure.

However, the three main short-term feedback loops in the Tel-Money system are, of course, the volume of calls (Fig. 4) made to the library, the nature of the calls made to the service representative, and comments received by bank employees from their customers and prospects. All three of these together act as a measuring device for each Tel-Money Program.

timely tips on money
Please specify topic by number
1. Timely Tips On Money From Tel-Money
2. How To Write A Check.
3. How To Endorse A Check.
4. What You Should Know About A Personal Line Of Credit.
5. Choose The Checking Account Best For You.
6. What A Checking Account Can Do For You.
7. The Safety And Convenience Of Special Bank Checks.
8. How Safe Are Your Savings?
9. Choose The Savings Account Best For You.
10. How Your Regular Savings Account Earns Interest.
11. How Much You Should Keep In Your Regular Savings Account.
12. Tax Records You Should Keep.
13. What You Should Know About An Individual Retirement Account.
14. How You Can Safeguard Your Valuables In A Safe Deposit Box.
15. Here's How You Can Help Yourself Save Money.
16. You And Your Credit Bureau.
17. What The Fair Credit Reporting Act Means To You.
18. How To Get And Keep A Good Credit Rating.
19. How A Young Person Can Start A Good Credit Record.
20. Your Credit Rating And What It Means To You.
21. Why You Should Pay Your Bills On Time.
22. Equal Credit Rights For Women.
23. How To Tell If Your Charge Account Or Credit Card Is A Good Buy.
24. Consolidation Loans: Is Borrowing To Pay Bills Smart?
25. How To Protect Your Credit Cards.
26. Protecting Yourself With Credit Life Insurance.
27. Why Your Cost Of Borrowing Money Changes.
28. Two Ways You Can Tell How Much Your Loan Will Cost.
29. How To Shop For An Installment Loan.
30. Some Helpful Hints On Having Your Loan Approved.
31. Why You Should Have A Will.
32. Why Joint Ownership Is A Poor Substitute For A Will.
33. How To Choose Your Executor.
34. What A Trust Can Do For You.
35. What Is A Living Trust?
36. What To Do When You Owe Too Much Money.
37. How To Balance Your Checkbook.
38. What To Do If Your Checkbook Doesn't Balance.
39. How To Stop Payment On A Check.
40. Choosing Your Financial Partner.
41. Why Do You Need Life Insurance?
42. How Do Your Life Insurance Beneficiaries Collect?
43. What You Should Know About Leasing A Car.
44. What You Should Know About Direct Deposit Of Social Security Checks.
45. Buying A Home—What You Should Look For In The Sales Contract.
46. What You Should Know About Closing Costs.
47. How A Mortgage Loan Works.
48. What You Should Know About A Conventional Mortgage Loan.
49. Watch Out For The "Bank Examiner" Swindle.
50. First Bank Hours And Locations.
Tel-Money

This is a quarter-page ad for the Yellow Pages of the local phone book. Year-long reference to it can be generated by simple 1" or 2" one-column ads in the local newspaper ... and a similar message in radio and TV spots.

30

Figure 2

TEL-MONEY® PERSONAL DATA CARD DATE: _____

Ms. ___ NAME:
Mr. ___
Mrs.___ (first) (middle initial) (last)

ADDRESS: PHONE: /
(street) (city/state) (zip code)

Called about TEL-MONEY Tape subject:

QUESTION:

SERVICE PROBLEM: _____

My Savings Account Number: My Checking Account Number: Other Type Account & Number:

ACTION TAKEN BY TEL-MONEY CONTACT PERSON: _____
(name)

1. MAY I TRY TO ANSWER YOUR QUESTION RIGHT NOW OVER THE PHONE? _____

DOES THAT ANSWER YOUR QUESTION? _____

2. MAY I MAIL YOU SOME INFORMATION WHICH WILL ANSWER YOUR QUESTION? _____
LET ME VERIFY YOUR ADDRESS:

INFORMATION MAILED (item & date):

3. OUR CUSTOMER SERVICE REPRESENTATIVE WILL CALL WITH AN ANSWER TO YOUR QUESTION. WHAT TIME AND DAY IS MOST CONVENIENT FOR YOU?

REFERRED TO:

CALL MADE (date): BY:

COMMENT:

Figure 3

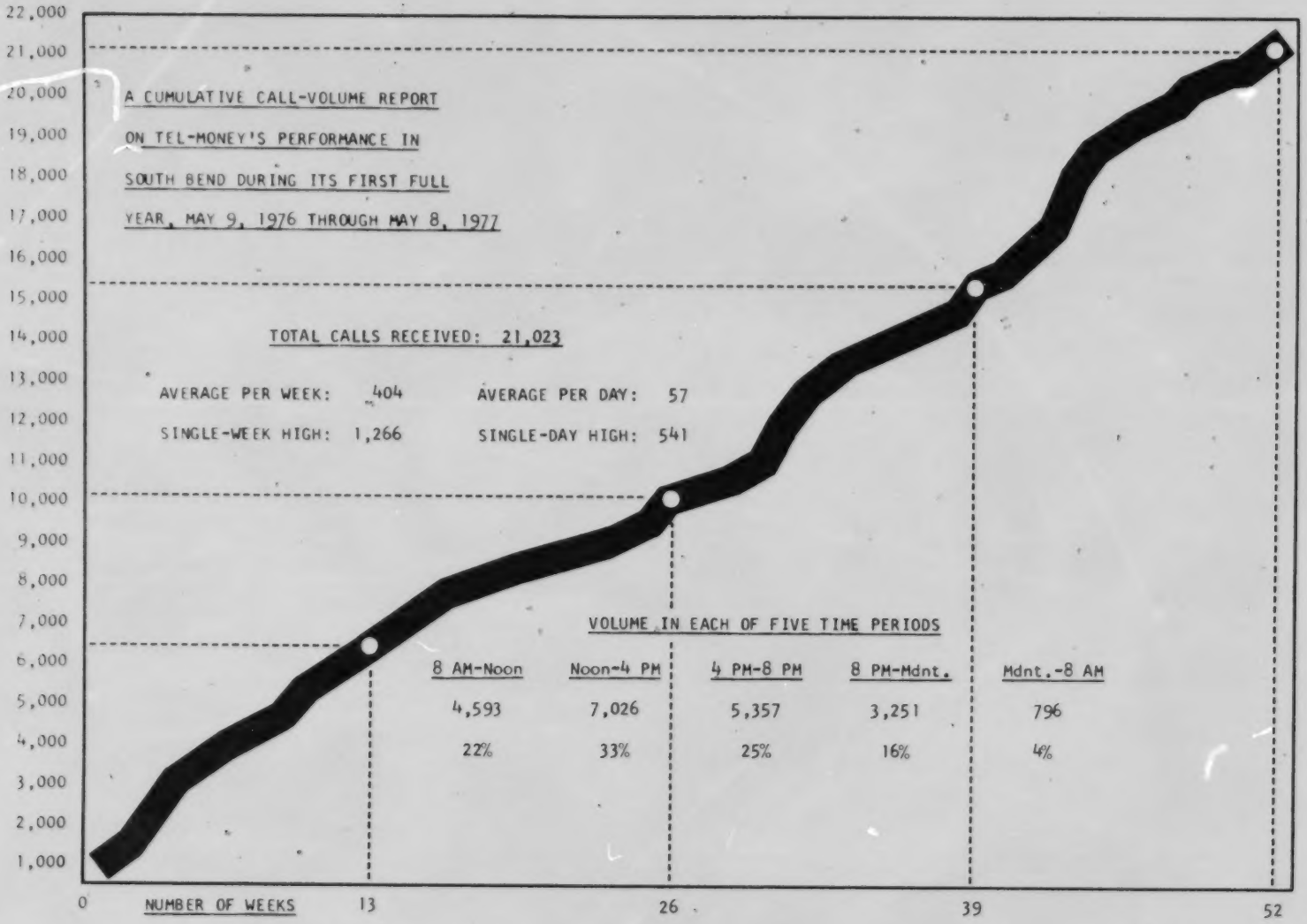

A CUMULATIVE CALL-VOLUME REPORT
ON TEL-MONEY'S PERFORMANCE IN
SOUTH BEND DURING ITS FIRST FULL
YEAR, MAY 9, 1976 THROUGH MAY 8, 1977
TOTAL CALLS RECEIVED: 21,023
AVERAGE PER WEEK: 404
AVERAGE PER DAY: 57
SINGLE-WEEK HIGH: 1,266
SINGLE-DAY HIGH: 541
VOLUME IN EACH OF FIVE TIME PERIODS
8 AM-Noon
Noon-4 PM
4 PM-8 PM
8 PM-Mdnt.
Mdnt.-8 AM
4,593
7,026
5,357
3,251
796
22%
33%
25%
16%
4%
22,000
21,000
20,000
19,000
18,000
17,000
16,000
15,000
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
NUMBER OF WEEKS
13
26
39
52

Figure 4

TEL-MONEY'S® TOPIC POPULARITY REPORT IN SOUTH BEND DURING ITS FIRST FULL YEAR, MAY 9, 1976 THROUGH MAY 8, 1977

RANK	TOPIC	NO. OF REQUESTS
1.	HOW MUCH YOU SHOULD KEEP IN YOUR REGULAR SAVINGS ACCOUNT (11)	1912
2.	TIMELY TIPS ON MONEY FROM TEL-MONEY (1)	1745
3.	HOW TO WRITE A CHECK (2)	953
4.	WHY YOU SHOULD HAVE A WILL (31)	939
5.	HOW TO ENDORSE A CHECK (3)	934
6.	WHAT YOU SHOULD KNOW ABOUT A PERSONAL LINE OF CREDIT (4)	866
7.	CHOOSE THE CHECKING ACCOUNT BEST FOR YOU (5)	841
8.	CHOOSE THE SAVINGS ACCOUNT BEST FOR YOU (9) HOW YOUR REGULAR SAVINGS ACCOUNT EARNS INTEREST (10)	675 675
9.	WHY JOINT OWNERSHIP IS A POOR SUBSTITUTE FOR A WILL (32) HERE'S HOW YOU CAN HELP YOURSELF SAVE MONEY (15)	651 651
10.	HOW SAFE ARE YOUR SAVINGS? (8)	626
11.	THE SAFETY AND CONVENIENCE OF SPECIAL BANK CHECKS (7)	614
12.	TAX RECORDS YOU SHOULD KEEP (12)	569
13.	WHAT A CHECKING ACCOUNT CAN DO FOR YOU (6)	559
14.	HOW A YOUNG PERSON CAN START A GOOD CREDIT RECORD (19)	528
15.	WHAT TO DO WHEN YOU OWE TOO MUCH MONEY (38)	506
16.	HOW YOU CAN SAFEGUARD YOUR VALUABLES IN A SAFE DEPOSIT BOX (14)	476
17.	WHAT YOU SHOULD KNOW ABOUT AN INDIVIDUAL RETIREMENT ACCOUNT (13)	390
18.	HOW TO GET AND KEEP A GOOD CREDIT RATING (18)	356
19.	CONSOLIDATION LOANS: IS BORROWING TO PAY BILLS SMART? (24)	347
20.	WHAT IS A LIVING TRUST? (35)	329
21.	YOUR CREDIT RATING AND WHAT IT MEANS TO YOU (20)	317
22.	HOW TO STOP PAYMENT ON A CHECK (39)	308
23.	HOW TO CHOOSE YOUR EXECUTOR (33)	290
24.	WHAT A TRUST CAN DO FOR YOU (34)	287
25.	YOU AND YOUR CREDIT BUREAU (16)	272

Figure 4a

RANK	TOPIC	NO. OF REQUESTS
26.	CHOOSING YOUR FINANCIAL PARTNER (40)	268
27.	SOME HELPFUL HINTS ON HAVING YOUR LOAN APPROVED (30)	260
28.	HOW TO PROTECT YOUR CREDIT CARDS (25)	252
29.	HOW TO TELL IF YOUR CHARGE ACCOUNT OR CREDIT CARD IS A GOOD BUY (23)	226
30.	WHAT THE FAIR CREDIT REPORTING ACT MEANS TO YOU (17)	221
	HOW TO BALANCE YOUR CHECKBOOK (37)	221
31.	WHAT TO DO IF YOUR CHECKBOOK DOESN'T BALANCE (38)	218
32.	WHY YOU SHOULD PAY YOUR BILLS ON TIME (21)	216
33.	EQUAL CREDIT RIGHTS FOR WOMEN (22)	207
34.	HOW TO SHOP FOR AN INSTALLMENT LOAN (29)	170
35.	TWO WAYS YOU CAN TELL HOW MUCH YOUR LOAN WILL COST (28)	151
36.	PROTECTING YOURSELF WITH CREDIT LIFE INSURANCE (26)	140
37.	FIRST BANK HOURS AND LOCATIONS (50) *	128
38.	WHY YOUR COST OF BORROWING MONEY CHANGES (27)	112
39.	WHY DO YOU NEED LIFE INSURANCE? (41) *	99
40.	HOW DO YOUR LIFE INSURANCE BENEFICIARIES COLLECT? (42) *	91
41.	WATCH OUT FOR THE "BANK EXAMINER" SWINDLE (49) *	84
42.	BUYING A HOME - WHAT YOU SHOULD LOOK FOR IN THE SALES CONTRACT (45)*	80
43.	WHAT YOU SHOULD KNOW ABOUT CLOSING COSTS (46) *	60
44.	WHAT YOU SHOULD KNOW ABOUT A CONVENTIONAL MORTGAGE LOAN (48)*	56
45.	WHAT YOU SHOULD KNOW ABOUT LEASING A CAR (43) *	55
46.	HOW A MORTGAGE LOAN WORKS (47) *	49
47.	WHAT YOU SHOULD KNOW ABOUT DIRECT DEPOSIT OF SOCIAL SECURITY CHECKS (44) *	43
	TOTAL CALLS RECEIVED	21,023

* One of ten tape topics added to program on December 8, 1976

Figure 4a

DIAL HARMONY: A COMMUNITY SERVICE OF THE COMPREHENSIVE CHILD CARE CENTER OF THE MARSHFIELD CLINIC AND MEDICAL FOUNDATION

Paul A. Sommers, Ph.D.
Director: Liaison Education Affairs
Comprehensive Child Care Center
Marshfield Clinic and Medical Foundation
Marshfield, WI

Frederick W. Theye, Ph.D.
Program Director
Comprehensive Child Care Center
Marshfield Clinic and Medical Foundation
Marshfield, WI

Dial Harmony is a program of the Comprehensive Child Care Center. It is a library of taped consultations dealing with common concerns affecting preschoolers and adolescents. A series of audio tapes ranging from 3 to 8 minutes in length have been prepared and recorded by professionals in the field. All are based on the idea that well informed parents are a key factor in their child's life. The messages range from general discussion to specific suggestions and are available to anyone in the Marshfield Area (See Attachment #1).

Planning Considerations

The Comprehensive Child Care Center of the Marshfield Clinic and Medical Foundation was established in July of 1975 to serve children with exceptional health and/or educational needs. A large number of children and parents have been seen from the Greater Marshfield Area and it was basically this group who demonstrated an interest in the availability of DIAL HARMONY/ACCESS taped consultations. Following early meetings with Marshfield District Public School Staff, specifically from the Follow Through Program, a decision was made to implement the portion of DIAL HARMONY Program targeted at parents of preschoolers. This phase of Dial Harmony contains 100 tapes dealing with topics of medical, dental, nutritional, safety, and emotional needs of preschoolers and their parents.

The Follow Through Program donated the playback equipment and cassette storage case, and the Marshfield Clinic provided the telephone hook-up in their main clinic switchboard which has 24 hour answering capability. The only space requirement was for storage of tapes in the switchboard room, and identification of one incoming phone by which the playback equipment is located. Staff requirements find a need for one of the switchboard operators to answer calls on the incoming DIAL HARMONY Line which has two lines on rotary. Staff from the Comprehensive Child Care Center are assigned administrative responsibilities and coordinate overall program efforts (See Attachment #2).

The system was implemented on October 16, 1977. Sixty-seven additional tapes were added to the DIAL HARMONY Program in March of 1979. The added tapes focus on common concerns of teenagers such as drugs, sexuality, vocational, social and emotional development (See Attachment #3).

Dial Access Technical Set-Up

The telephone system has 2 lines on rotary. The access system is comprised of 2 Sony FT406 front loading cassette decks modified with play and line hold relays. Power for the players is

supplied by a 12 V-DC power supply with Y adapter.

Dial Access Tapes

164 tapes and scripts were purchased from the Oconomowoc Public School "PROJECT HAPPY" Program in 1977 and three tapes were developed locally. The 100 tapes dealing with early childhood issues are utilized in the same format as purchased. The 64 tapes dealing with teenage concerns were also purchased from the same project: However, they have been taped locally by professionals from the broadcast field and adapted for local usage; i.e. local HOTLINE numbers, local social service and vocational rehabilitation, and job employment agencies. The tapes developed locally deal with the topics of: (1) What to do after finding out your daughter is pregnant, (2) Adoption, and (3) Keeping Your Baby. Each tape was monitored and reviewed by Clinic administration, physicians, and other professional staff prior to release to insure that the most appropriate perspective is relayed to the callers.

Depending upon the time period and related promotional activities, different tapes have had the greatest frequency of utilization. (See Attachment #4). During the first four months of the program (October 16, 1977 through January 16, 1978) the following tapes were most frequently utilized in the order given: (1) Toilet Training, (2) Breast Feeding, (3) Bedwetting, (4) What To Look For Before Calling The Doctor, (5) Problems of Working Mothers, (6) "Terrible Two's", (7) Discipline and Punishment, (8) Thumbsucking, (9) Relationships with Relatives, and (10) Coping with Temper Tantrums. A more recent utilization study for the time period from August through December 1978 found the following utilization pattern: (1) Toilet Training, (2) Bedwetting, (3) Thumbsucking, (4) Coping with Temper Tantrums, (5) Eliminating the Bottle; Discipline and Punishment, (6) What To Do Before Calling The Doctor; Indoor Activities for the Child, (7) Dental Care; and Coping with the Terrible Two's.

Audiences Reached

The system is used solely by those individuals living within the Marshfield telephone exchange area, i.e. Marshfield, Auburndale, Spencer, Chili, and Lindsey. Any person outside of this telephone exchange area can still call the DIAL HARMONY Tape System, however, their call will be a long distance call. The service area is distinctly rural and has a population base of approximately 25,000 to 30,000 people who reside within a 17-mile radius of Marshfield.

Dial Access Tape Production

As indicated in an earlier paragraph the first 100 DIAL HARMONY tapes were purchased from the Oconomowoc Public School "PROJECT HAPPY" Program. The second 64 tapes were also purchased from the same project; however, they were reproduced locally by using professional broadcast personnel.

Promotional Innovations

Three additional tapes were written and produced locally, and will be added to the 164 tapes purchased. All 167 tapes will be placed into a composite brochure currently being developed. From the onset, a variety of promotional activities have taken place utilizing the newspaper, radio, direct mailings, posters, and distribution to various locations throughout the Marshfield Region by the Marshfield Area Girl Scouts.

Evaluation Results

Several evaluation measures have been implemented. The first is simply a log of the frequency of calls by hour and tape requested (See Attachment #5). Another report is attached for the time interval of August through December 1978 (See Attachment #6).

A second evaluation measure included the review of statistics following media promotion. Specifically, calls were charted following radio public service spots and newspaper public service spots. (See Attachment #7). This report delineates the DIAL HARMONY calls by one week intervals over a five week period. Each call received is listed by tape number and the frequency with which that tape was selected is given. Those tapes designated by an asterisk were promoted via public service spots in both the local newspaper and the local radio station. The order in which the tapes were publicized is also listed. The staff attempted to determine which media presentation inspired the greatest frequency of calls to a specific tape by reversing the order in which they appeared in newspaper ads from the radio spots. The data

did not allow any conclusions to be drawn regarding this question.

A third evaluation resulted when classified advertisements were taken out through the newspaper. The frequency of calls requesting the tape featured in the ad was made. A comparison of the four tapes advertised to the ninety-six not advertised found that the four (tape #'s 1, 8, 19 and 58) accounted for 33% of all calls during the evaluation interval of one month.

In addition to the frequency/utilization evaluation studies made, an attempt has been made to gather consumer satisfaction information about the tapes called. A variety of formats were used to secure this data and included sending a short questionnaire asking the person who called specific tapes to answer a few questions about their satisfaction with the tape. Initially basic yes-no questions were asked with an opportunity for making comments. (See Attachment #8). This yes-no response format did not give an indication of the degree of consumer's satisfaction with the tape.

A second questionnaire was devised in a format requesting the consumer to rate on a continuum of from 0 to 100 their satisfaction with various questions associated to the tape (See Attachment #9). The data reflects fairly good consumer evaluation of the content found in those tapes called upon. However, a problem did come up with this procedure that has led staff to redesign this evaluation activity. The problem resulted when the switchboard operator would ask the caller of a specific tape to give their name and address so that we could mail a questionnaire survey to them. The switchboard staff indicated that about 30% of the callers would "hang up" when they were asked to give their name and address. Therefore, an alternative method to secure consumer satisfaction evaluation of the tapes was developed. Presently a self-addressed, stamped postcard is included with the DIAL HARMONY brochure. After completing a call for one of the DIAL HARMONY tapes, the caller is asked to fill out the card and give no indication of their name or address (Data from this procedure is not available at the time of this article).

Each of the evaluation questionnaires provide an ample opportunity for open-ended consumer comments and suggestions. It is believed that any evaluation system should have the flexibility to allow for such comments and suggestions (See Attachment #10 and #11).

Community Involvement

The Board of Directors of the Comprehensive Child Care Center provide community input and review the DIAL HARMONY Program. Board membership includes key personnel from the areas of business, law, parent representation, physicians, and clinic administration. Additionally, the Marshfield Area Girl Scouts have agreed to distribute the brochure to selected drop off points, i.e. drug stores, banks, public and private schools, and other locations. The Girl Scouts represent various communities throughout the Greater Marshfield Region.

Staffing Strategies

Staff providing services to the DIAL HARMONY aspect of the Comprehensive Child Care Center include switchboard personnel, staff from the Electronics Department, Medical Education, Audio-Visual, Communications, Graphic Arts, and Legal Services. Coordinative responsibilities are assumed by Comprehensive Child Care Center Staff. The only shift work performed is done by switchboard personnel. Since the switchboard is available 24 hours a day a staff member from each shift assumes responsibility for the DIAL HARMONY phone line.

Funding Sources

Initial funding for the purchase of the playback equipment and storage cabinet was provided by the Follow Through Program of the Marshfield Public Schools. Other funding for ongoing operations and new developments have been provided through the Comprehensive Child Care Center, the Marshfield Medical Foundation, and the Marshfield Clinic. There are no federal or state funds in the project.

Cost Effectiveness Of Dial Access

The initial cost to purchase the playback equipment and the storage chest was approximately $500. Additionally, approximately $300 was spent redeveloping the 67 tapes focusing on adolescent needs with $200 of this amount expended to have professional broadcasters record the tapes. One of our cost effectiveness studies did compare costs to the number of calls from the period of October 16, 1977 through September 30, 1978. A total of approximately 1,756 calls were made to the DIAL HARMONY line. The cost per

call was 35¢. This included the cost of the telephone line, printing expenses and newspaper advertisements. Public service spots were provided by the radio station and the local newspaper at no cost.

Future Plans/Expansion Of Dial Access System

Currently we are adding an additional 67 tapes to the series dealing with problems of the adolescents (these tapes were described above).

SUBJECTS OF CONCERN

Catalog No.

067 . . . Activities That Help Develop Speaking And Listening Skills (2 - 5 Years)

068 . . . Activities That Help Develop Math Concepts And Readiness (3 - 5 Years)

069 . . . Activities That Help Develop Reading Readiness (3 - 5 Years)

070 . . . Activities That Help Develop Science Concepts (4 - 5 Years)

ANTICIPATING IMPORTANT EVENTS

071 . . . Preparing Your Child For A New Brother Or Sister (3 - 5 Years)

072 . . . Preparing Your Child For The Babysitter (0 - 5 Years)

073 . . . Preparing Your Child For School (2 - 5 Years)

074 . . . Preparing Your Child For A Move (3 - 5 Years)

075 . . . Preparing Your Child To Go To The Hospital (2 - 5 Years)

076 . . . Preparing Your Child To Go To The Dentist (2 - 5 Years)

BUILDING EMOTIONAL STRENGTHS

077 . . . Helping Your Pre-Schooler Welcome The New Baby (3 - 5 Years)

078 . . . Building Self-Confidence (1 - 5 Years)

079 . . . Developing A Sense Of Responsibility (6 Months - 5 Years)

080 . . . Coping With Temper Tantrums (2 - 5 Years)

081 . . . Jealousy In Pre-Schoolers (2 - 5 Years)

082 . . . Helping Your Child Cope With Nightmares (1 - 5 Years)

083 . . . Respecting A Child's Individuality (2 - 5 Years)

084 . . . "Why Don't You Act Your Age?": A Discussion (3 - 5 Years)

Attachment #1
33

SUBJECTS OF CONCERN

Catalog No.

085 . . . Security Blankets (12 - 36 Months)

086 . . . Thumbsucking In Your Children (0 - 5 Years)

087 . . . Why A Pacifier?: A Discussion (0 - 3 Years)

088 . . . Shyness In Young Children (2 - 5 Years)

089 . . . Children Manipulating Their Parents: A Preventative Approach (3 - 5 Years)

090 . . . Hyperactive Children: A Discussion (2 - 5 Years)

091 . . . Storytelling And Lying By Pre-Schoolers (3 - 5 Years)

092 . . . Bad Language: A Discussion (2 - 5 Years)

093 . . . Discipline And Punishment: A Discussion (2 - 5 Years)

094 . . . Children And Routines (0 - 4 Years)

095 . . . Explaining Divorce Or Separation (3 - 5 Years)

096 . . . Sharing: A Discussion For Parents (2 - 4 Years)

097 . . . Coping With Sadness, Disappointment And Anger (3 - 5 Years)

098 . . . Explaining Death To Pre-Schoolers (3 - 5 Years)

099 . . . Helping Your Child Solve Problems (3 - 5 Years)

100 . . . Helping Your Child Cope With Fears (2 - 5 Years)

This project is a cooperative effort of the Follow-Through Program of the Marshfield Public School District and Marshfield Clinic.

DIAL HARMONY

COMPREHENSIVE CHILD CARE CENTER

Dial Harmony is a library of taped consultations dealing with common concerns of raising pre-schoolers. Each 3 to 5 minute recorded message was prepared and reviewed by professionals in the field. All are based on the idea that well informed parents are a key factor in their child's life. The messages range from general discussions to specific suggestions and are as near to you as your phone.

Call 387-5400
24 hours a day

SELECT THE TAPE YOU WANT TO HEAR AND ASK FOR IT BY NUMBER

SUBJECTS OF CONCERN

Catalog No.

MEDICAL CONCERNS

001 . . . What To Look For Before Calling Your Doctor (0 - 5 Years)

002 . . . Having Regular Check-Ups (0 - 5 Years)

003 . . . Ways To Give Medication (0 - 3 Years)

004 . . . Sleeping Habits (0 - 3 Months)

005 . . . Sleeping Needs (3 - 5 Years)

006 . . . Coping With Colic (0 - 3 Months)

007 . . . Immunizations (0 - 5 Years)

008 . . . Toilet Training (18 - 38 Months)

009 . . . Bedwetting (3 - 5 Years)

010 . . . Developing Handedness Preference (3 - 5 Years)

011 . . . Detecting A Hearing Problem (0 - 5 Years)

012 . . . Detecting A Vision Problem (4 - 5 Years)

013 . . . Overweight Children (2 - 5 Years)

014 . . . Activities For A Sick Child (2 - 5 Years)

SAFETY

015 . . . Crib Safety (0 - 2 Years)

016 . . . Traveling Relaxed With Small Children (1 - 5 Years)

017 . . . How To Childproof Your House (0 - 5 Years)

018 . . . Childproofing Your Garage (0 - 5 Years)

019 . . . Measures To Prevent Poisoning (0 - 5 Years)

020 . . . Safeguarding Your House For A Walking Child (1 - 3 Years)

021 . . . Tricycle Safety (2 - 5 Years)

022 . . . Water Safety Year Around (3 - 5 Years)

DENTAL CONCERNS

023 . . . Teething (6 - 24 Months)

024 . . . Dental Care (0 - 2 Years)

SUBJECTS OF CONCERN

Catalog No.

025 . . . Developing Good Dental Habits (0 - 5 Years)

NUTRITIONAL CONCERNS

026 . . . Eliminating The Bottle (5 - 12 Months)

027 . . . Nutrition For Toddlers (1 - 3 Years)

028 . . . Snacks For Pre-Schoolers (1 - 5 Years)

029 . . . Managing Your Child At The Family Table (1 - 3 Years)

GENERAL CONCERNS

030 . . . Selecting Toys That Are Safe (0 - 5 Years)

031 . . . Clothing And Equipment For New Babies (0 - 6 Months)

032 . . . Your Child And T.V. (1 - 5 Years)

033 . . . Selecting Toys For Children (0 - 5 Years)

034 . . . Pre-School for Your Child? Programs and Resources

035 . . . Breaking In A New Babysitter (2 - 5 Years)

036 . . . Importance Of Imaginary Play (3 - 5 Years)

037 . . . Coping With The "Terrible Two's" (1 - 3 Years)

038 . . . Bottle Feeding: A Discussion

039 . . . Breast Feeding: A Discussion

PARENTS ARE IMPORTANT TOO

040 . . . Time For Yourself (Parents)

041 . . . A Parent's Feeling Of Inadequacy

042 . . . A Parent's Feeling Of Resentment

043 . . . Adjustment To Motherhood

044 . . . Problems Of Working Mothers

045 . . . Family Adjustment (For Fathers)

046 . . . Sharing Responsibilities (For Fathers)

SUBJECTS OF CONCERN

Catalog No.

047 . . . Relationships With Relatives

WORKING TOGETHER

048 . . . Reading To Young Children (1 - 5 Years)

049 . . . Kitchens As Classrooms (3 - 5 Years)

050 . . . Cooking With Children (3 - 5 Years)

051 . . . Homemade Toys (0 - 12 Months)

052 . . . Homemade Toys (12 - 24 Months)

053 . . . Recipes Children Can Make Themselves (3 - 5 Years)

054 . . . Creative Art Activites (3 - 5 Years)

055 . . . Outdoor Learning Activities (3 - 5 Years)

056 . . . How To Start An Activity When There's Nothing To Do (3 - 5 Years)

057 . . . Outdoor Play Equipment To Make (Or Buy) (1 - 5 Years)

058 . . . Indoor Activities You Can Do With Your Child (2 - 5 Years)

059 . . . Learning Situations In The Bathroom (2 - 5 Years)

DEVELOPING SKILLS

060 . . . Learning Activities For The New Baby (0 - 6 Months)

061 . . . Activities That Help Develop Eye-Hand Coordination (0 - 18 Months)

062 . . . Activities That Help Develop Small Muscles (0 - 3 Years)

063 . . . Speech Development In Young Children (0 - 5 Years)

064 . . . Activities And Toys That Help Develop Large Muscles (1 - 4 Years)

065 . . . Encouraging Your Child To Dress And Undress Himself (1 - 3 Years)

066 . . . Activities That Help Develop Body Awareness (1 - 5 Years)

MARSHFIELD
COMPREHENSIVE
CHILD CARE CENTER

MARSHFIELD CLINIC
MARSHFIELD, WI 54449

THE MARSHFIELD COMPREHENSIVE CHILD CARE CENTER

Children with exceptional health and educational needs from birth through age 21 are the primary focus of the Comprehensive Child Care Center (MCCCC). Services available include:

1. Comprehensive Evaluation, Diagnosis, Treatment and Follow-up Activity for Children With Exceptional Needs
2. Home Teaching for Children With Developmental Disabilities
3. Medical Respite Homes for Severely Handicapped Children
4. Specialty Clinic for Children With Cleft Lip and Palate Abnormalities
5. Multidisciplinary Services for Children With Basic Orthopedic Conditions, and Cerebral Palsy.
6. Specialty Clinic for Arthritis
7. Genetic and Birth Defects Clinic
8. Child/Adolescent Psychiatric Unit
9. Perinatal Center
10. Scoliosis Clinic
11. Consultation and In-service Training Workshops

Attachment #2

SUBJECTS OF CONCERN

Catalog No.	EMOTIONAL CONCERNS
148	How Do You Become The Person You'd Like To Be?
149	What To Do When You Hate Your Teacher
150	Why Can't I Do What I Want? -- Coping With Rules
151	Why Do I Always Feel So Guilty?
152	Feeling Lonely?
153	Why Do I Sometimes Feel That I Hate My Brother/My Sister?
154	Coping With The Death Of Someone You Love
155	Lying
156	Cheating
157	Unhappy With The Way You Look?
158	Understanding And Dealing With Your Emotions
159	Do You Feel That Nobody Loves You Or Cares About You?
160	It's Not Easy Being A Teen
161	Do You Feel Depressed?
162	Coping With Rejection
163	Is A Friend Thinking About Suicide?
164	Are You Thinking About Suicide?
165	What To Do After Finding Out Your Daughter Is Pregnant?

We hope these taped messages have helped you. Now will you help us?

We've enclosed a scorecard with this brochure, asking you to evaluate the tapes you listened to. If they were helpful, we'd like to know about it. If they weren't, we'd like to know that, too. Please complete the form, **do not sign it or identify yourself in any way,** and return it to us. It has been pre-addressed and postage-paid.

Attachment #3

DIAL HARMONY

is a service brought to you through the

MARSHFIELD COMPREHENSIVE CHILD CARE CENTER

In cooperation with:

Marshfield Clinic
Marshfield Medical Foundation

The Dial Harmony catalog is being distributed by Marshfield Area Girl Scouts.

FOR MARSHFIELD AREA

TEENAGERS

WITH QUESTIONS ABOUT

DRUGS
SEX
LIFE

CALL

387-5400

Dial Harmony is a library of taped consultations dealing with common concerns of childhood and adolescence. Tapes listed in this brochure feature subjects of concern and interest primarily to "teenagers." This service is free and confidential.

Each 3-to-8 minute recorded message was prepared and reviewed by professionals in the health field. All are based on the belief that well informed teenagers will develop into well informed adults. The messages, which range from general discussions to specific suggestions, are as near to you as your phone.

CALL 387-5400

24 HOURS A DAY

Ask for the tape you want to hear by number

Additional information on DIAL HARMONY is available at the

Comprehensive Child Care Center
Marshfield Clinic
1000 North Oak Avenue
Marshfield, WI 54449
Telephone No. (715) 387-5228

SUBJECTS OF CONCERN

Catalog No.	
	PRACTICAL CONCERNS
101	Buying A New Or Used Car
102	Car Loans And Car Insurance
103	So You Want To Get A Part-Time Job?
	VOCATIONAL CONCERNS
104	Too Young To Know What You Want To Do For The Rest Of Your Life?
105	Making A Career Choice
106	Alternatives To Attending College
	PHYSICAL HEALTH
107	Acne
108	Underweight
109	Overweight
	SEXUALITY
110	Am I Pregnant?
111	What Is Happening To My Body (Girls)?
112	How Far Is Too Far?
113	Sex And Love: Is There A Difference?
114	Homosexuality
115	Masturbation
116	Venereal Disease
117	Abortion
118	Birth Control
119	How Does Someone Become Pregnant?
165	What To Do After Finding Out Your Daughter Is Pregnant?

SUBJECTS OF CONCERN

Catalog No.	
	PROBLEMS WITH PARENTS
120	No Communication With Your Parents?
121	When I Was Your Age
122	Problems With Your Parents Over Smoking (Cigarettes)
123	Problems With Parents Over Hours
124	How To Help Your Parents Hear What You're Saying
125	Conflict With Parents Over Friends And Dates
126	Expected To Act Like An Adult But Treated Like A Child
127	What To Do If You Think You're Being Abused
128	Problems With Parents Over Drugs
129	Problems With Your Parents Over Fighting With Your Brothers And Sisters
130	Why Do I Sometimes Feel That I Hate My Mother Or My Father?
131	Why You're Compared
132	So You've Lost Your Parents' Trust -- Can You Get It Back?
133	So You're Thinking Of Leaving Home
134	Are You Thinking Of Running Away?
	DRUGS
135	Kicking The Cigarette Habit
136	Why Do You Drink?
137	Alcohol And Other Drugs: Or, What You Don't Know Can Hurt You
138	Living With A Parent Who Has A Drinking Problem
139	Drug Dependency
140	Some Facts About Drugs
141	Are You Drinking Responsibly (Or Irresponsibly)?
	SOCIAL CONCERNS
142	Overcoming Your Shyness
143	Shoplifting
144	Is Everybody Dating But You?
145	How Important Is It To Be "Popular?"
146	Going Steady
147	What Does It Mean To Be A Woman In Today's World?

DIAL HARMONY

October 16, 1977 - January 16, 1978

Total Number of Calls = 1,126

Number of Days = 90

Average Number of Calls/Day = 12.2

Calls/Week

10/16 = 231	11/21 = 40	12/27 = 19
10/23 = 259	11/28 = 26	1/4 = 45
10/30 = 132	12/6 = 12	1/10 = 16
11/7 = 90	12/13 = 7	
11/14 = 28	12/20 = 21	

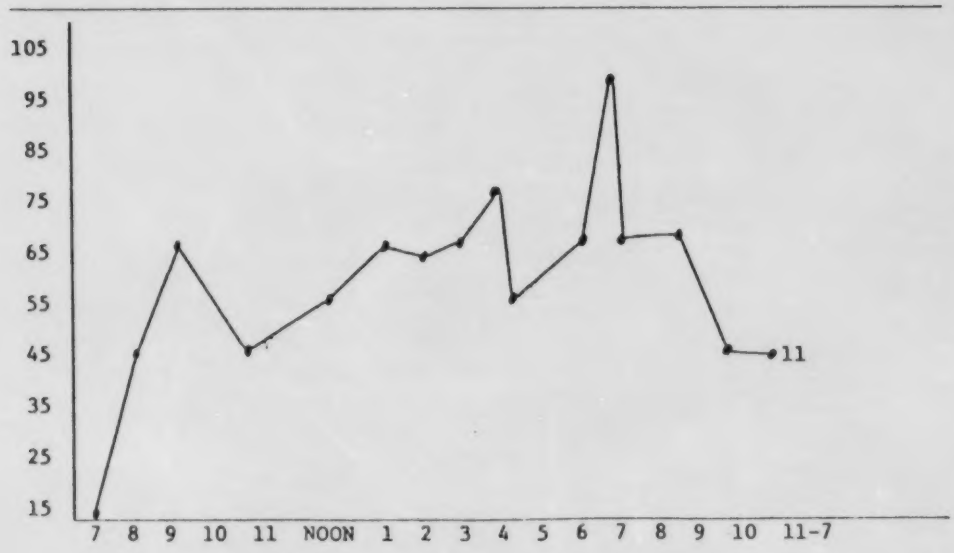
Costs

2 Telephones	= $30/month
Printing	= $90
Total	= $120*

*Equipment donated by Follow-Thru-Program, Public Schools

Ten Most Frequently Requested Tapes-In Order

1. Toilet Training
2. Breast Feeding
3. Bedwetting
4. What To Look For Before Calling The Doctor
5. Problems of Working Mothers
6. "Terrible Two's"
7. Discipline and Punishment
8. Thumbsucking
9. Relationships with Relatives
10. Coping with Temper Tantrums



Attachment #4

DIAL HARMONY

Evaluation Report of Utilization For the Time
Interval of August through December 1978

Total Number of Calls = 313 (Average of 63 per month or 2+ per day)

Summary of Calls Per Month by Hour = (See Attached Summary Table)

Ten Most Frequently Requested Tapes In Order

1. Toilet Training (26)
2. Bedwetting (22)
3. Thumbsucking (20)
4. Coping with Temper Tantrums (16)
5. Eliminating the Bottle (9)
   Discipline and Punishment (9)
6. What To Do Before Calling The Doctor? (8)
   Indoor Activities for Child (8)
7. Dental Care (6)
   Coping with Terrible Two's (6)
8. Tape #'s: 6, 27, 41, 63, 73, & 87 (5)
9. Tape #'s: 7, 13, 29, 44, 47, 61, 67, & 82 (4)
10. Tape #'s: 3, 14, 19, 28, 35, 39, 40, 53, 56, 65, 72, 83, 84, 89, 97, & 98 (3)

Attachment #5

DIAL HARMONY Utilization Review - Summary of Calls Per Month By Hour - (August 1978 through December 1978)

Each tape number called is recorded by the time of day and summarized on a monthly basis.

Time of Day	August	Total	September	Total	October	Total	November	Total	December	Total	Summary By Hour
7 - 8 A.M.		0	1	1		0		0		0	1
8 - 9 A.M.	9-23-40-41-1-26-87-16	8	86-9-54-80	4	93	1	58	1	97-39	2	6
9 - 10 A.M.	24-9	2	9-87-86-93-86-9-9	7	80-2-57-69	4	48-32	2	1-6	2	7
10 - 11 A.M.	76-73-73-63	4	12-86-86-86-93-71-59-80	8	97-99-29-86-93-83-67-26-63	9	1-8-58	3	14	1	25
11 - 12 A.M.	73-2-44-40-80	5	93-93-86-86-86-86-14-80-56-9-9-80-40-80	14	80-98-9-26-37-6-29-84-44-27-92-63	12	9	1	86	1	33
12 - 1 P.M.	60-39	2	6-44-89	3	8-74-15-8-72-95-86-50-63-8	10	8-23-34	3		0	18
1 - 2 P.M.	76-35-47-83	4	82-8-34-86-9-8	6	24-9-38-4-44-8-26	7	42-8-8-8-14-8-13	7	90-90-98-79-37-27-67-98	8	32
2 - 3 P.M.	1-9-35-86-8-59-24-37	8	73-87-93-93-8-8	6	6	1	93-47-19	3	25-57	2	20
3 - 4 P.M.	61-18-79	3	79-9-8	3	9-38	2	13-16-26	3	37-67-92-3-52-69	6	17
4 - 5 P.M.	4-65	2	8-26-63-87-41-87	6	1	1	83-8-24	3	71-1-61-61-31-51	6	18
5 - 6 P.M.		0	1-84-65-8-37-93-24-80-80-9	10		0	11-3-1-3-8-19-58	7	9	1	18
6 - 7 P.M.	88	1	75-45	2		0	8-79-32-53-84-1-58-58-58-58	10	26-27-27-6-28	5	18
7 - 8 P.M.		0	7-6-80-47	4	9-9	2	13	1	80	1	8
8 - 9 P.M.	35-39	2	89-86-82-26	4	64-7-37	3	8-8-25-37-58	5		0	14
9 - 10 P.M.		0	9	1		0	9-20-58	3	82-41-27-32	4	8
10 - 11 P.M.		0	86	1	17	1	8-8-8-9-9-19-92-80	8	7-28	2	12
11 - 12 P.M.		0		0	95-73	2	65-48-47-28-72	5		0	7
12 - 1 A.M.		0	86	1	36-67-78-26-97-89	6	93-96-68	3		0	10
1 - 2 A.M.	43	1		0	29-80-63-80-53-80-7-56-41	9	53-26-100	3	61	1	14
2 - 3 A.M.		0	86-86-86	3	9	1		0		0	4
3 - 4 A.M.	29	1	72	1		0		0	11	1	3
4 - 5 A.M.		0		0		0		0		0	0
5 - 6 A.M.		0		0		0		0		0	0
6 - 7 A.M.		0		0		0		0		0	0
Totals	43		85		71		71		43		313

Attachment #5

Attachment #6

41

Media Promotion Evaluation Report
(10-9-78)

1	2	3	4	5
9-4 to 9-10,1978	9-11 to 9-17,1978	9-18 to 9-24, 1978	9-25 to 10-1, 1978	10-2 to 10-8, 1978
82 - 1	86 - ~~1111~~	86 - $1111*R^2$	80 - ~~1111~~	80 - $11*R^4/N^3$
73 - 1	~~1111~~	9 - ~~1111~~	$1111*R^4/N^3$	24 - 1
87 - 11	$111*R^2$	$11*R^3$	59 - 1	9 - $1*R^3/N^4$
79 - 1	72 - 1	26 - 11	40 - 1	38 - 1
89 - 1	93 - $11*R^1$	82 - 1	93 - $11*R^4$	4 - 1
8 - 11	56 - 1	6 - 1	87 - 11	44 - 1
1 - 11	7 - 11	8 - 3	41 - 1	98 - 1
12 - 1	75 - 1	93 - $1*R^1$	24 - 1	8 - 11
34 - 1	45 - 1	54 - 1	47 - 1	10/3* (30%)
84 - 1	65 - 1	44 - $1*N^2$	14 - 1	
9 - 1*	22/15* (68%)	37 - 1	89 - 1	
93 - $11*R^1$		63 - 1	8 - 11	
16/3* (19%)		71 - 1	9 - $11*R^3/N^4$	
		24/13* (54%)	24/13* (54%)	
*(%) = tapes announced via media				

Sequence of Tapes Presented -	Radio	Newspaper
1 -	93	39
2 -	86	44
3 -	9	80
4 -	80	9
5 -	44	86

"I'm concerned about my child and household poisoning. What can I do to prevent it?"

It's a question every parent asks, and **DIAL HARMONY** has the answer. Call 387-5400 — any time day or night and request **TAPE #19. DIAL HARMONY** is free, and it's as near as your telephone.

DIAL
HARMONY

A COMMUNITY SERVICE OF MARSHFIELD COMPREHENSIVE CHILD CARE CENTER

ASK FOR YOUR **FREE** CATALOG OF ALL 165 TAPES

COMPREHENSIVE CHILD CARE CENTER

Marshfield Medical Foundation

Attachment #7

5f

Initial Questionnaire

Marshfield Comprehensive Child Care Center

DIAL HARMONY EVALUATION

Please complete the following questions:

Today's Date _____

Your Age _____ Male _____ Female _____ Tape(s) you listened to # _____

_____

_____

_____

Was the information in the tape you listened to practical for you to use?

_____ Yes _____ No COMMENTS:

Was the message easy to understand?

_____ Yes _____ No COMMENTS:

Did you try any one of the ideas suggested in the tape?

_____ Yes _____ No If yes, which idea?

Was the idea you tried successful?

_____ Yes _____ No COMMENTS:

Would you recommend the use of the DIAL HARMONY program to other parents?

_____ Yes _____ No If no, why not?

How would you suggest the DIAL HARMONY program could be improved?

Please list any topics or concerns that you think might make good additions to the DIAL HARMONY program.

Thank you for taking the time to make this program a more valuable service to you! Staff, Comprehensive Child Care Center - Marshfield Clinic

(Return this form within 5 days in the enclosed, self-addressed, stamped envelope to the Comprehensive Child Care Center)

Attachment #8

SUMMARY REPORT OF CONSUMER SATISFACTION

September 8, 1978

Dear

Thank you for using the DIAL HARMONY telephone line. We hope that the message you received was valuable to you as a parent.

The Marshfield Comprehensive Child Care Center is very interested in your opinion of the DIAL HARMONY program. Our goal is to develop materials which deal with the needs and problems of children 0 through 6 years and their parents. In evaluating the system, we feel we must call on its users for their comments and suggestions.

Enclosed is a questionnaire which we are asking you to complete and return to us in the self-addressed, stamped envelope. Circle the percent (%) which relates to each question that indicates how well it applies to your satisfaction with the information found on the tape recording. A rating of 50 is average. A rating above 50 indicates a positive (favorable) response to the question, a rating of less than 50 indicates a negative (less than favorable) response. All responses will remain confidential. Also enclosed is a DIAL HARMONY catalog. If you still have yours, pass this one on to a friend or neighbor you think might use the DIAL HARMONY line.

Your cooperation in helping us evaluate the DIAL HARMONY telephone system is greatly appreciated. This service relies on the assistance and cooperation of willing and concerned parents like yourself.

Sincerely,

STAFF, COMPREHENSIVE CHILD CARE CENTER
OF THE MARSHFIELD CLINIC

Enclosure: Self-Addressed, Stamped Envelope
DIAL HARMONY Catalog

Attachment #9

Please complete the following questions:

Today's Date June 23, 1978 - August 4, 1978

Your Age 27,25,22,25,24, Male 1 Female 5 Tape(s) you listened to # 001(2)

008(2)	025(2)	017(2)	039	085	016
051	052	015(2)	090	054	003
043	023	033	037(2)	029	026
087					

Was the information in the tape you listened to practical for you to use?

NO — 75% — YES

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Was the message easy to understand?

NO — 95% — YES

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Did you try any one of the ideas suggested in the tape?

6 (100%) Yes 0 (0%) No If yes, which idea? (See attached comment sheet)

Did the information you obtained meet with your expectations?

NO — 77% — YES

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Was the idea you tried successful?

NO — 83% — YES

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Would you recommend the use of the DIAL HARMONY program to other parents?

6 (100%) Yes 0 (0%) No If no, why not?

How would you suggest the DIAL HARMONY program could be improved?

(See attached comment sheet)

Please list any topics or concerns that you think might make good additions to the DIAL HARMONY program.

(See attached comment sheet)

Thank you for taking the time to make this program a more valuable service to you! Staff, Comprehensive Child Care Center - Marshfield Clinic

(Return this form within 5 days in the enclosed, self-addressed, stamped envelope to the Comprehensive Child Care Center)

Attachment # 9

Postage Will Be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY MAIL

First Class Permit No. 1 - Marshfield, Wis. 54449

Comprehensive Child Care Center
Dial Harmony Evaluation Study

Marshfield Clinic
1000 North Oak Avenue
Marshfield, WI 54449

THANK YOU FOR USING DIAL HARMONY!

Please circle the % (50% being average) that corresponds to your level of satisfaction with each of the following questions:

Today's Date _____ Your Age _____ Male_____ Female _____

Tape(s) you listened to: No. _____ No. _____ No. _____ No. _____ No. _____

1. Was the message easy to understand?

No					Average					Yes
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

2. Did the information meet with your expectations?

No					Average					Yes
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

3. If you tried an idea suggested was it successful?

No					Average					Yes
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

If yes, which idea? _____

4. How can we improve the DIAL HARMONY tapes? _____

_____

Any other comments or suggestions? _____

_____

9-84513 (12/78) **JUST PLACE CARD IN MAIL AFTER COMPLETING**

Attachment #10

57

COMMENT SHEET

Did you try any one of the ideas suggested in the tape? If yes, which idea?

It mentioned something about rest in adjustment to motherhood. Usually I am on the go until finally it caught up to me. So, it pays to rest every now and then and I am!

Outdoor play activity: A refrig. box to romp in.
Sand to play with.
Proper guidance with play toys and games.

Bought plugs for all electric outlets not in use. Used idea of string painting, which really came in handy on rainy days.

Quite a few.

Suggestions in tape 025 - watch for signs of readiness. Also in 008 - ways to brush a young child's teeth. In 001 taking an infant's temp.

016 - making sure my small children have toys, etc. in the car to keep them occupied. I have just recently become aware of Dial Harmony and intend to make much more use of it.

How would you suggest the DIAL HARMONY program could be improved?

I really don't know much about it, but what I have seen and heard, there couldn't be any better improvements.

Possibly, more "advertising". It is a most comforting feeling to look through the catalog and discover that someone (Dial Harmony) feels my "problem" or situation deserves discussion.

I have problems with my year old child that are listed in Dial Harmony that are in terms of an older child. In that respect Dial Harmony does not help me as the tapes are designed for an older child who is more verbal and understands more.

More tapes dealing with specific problems such as listed below. The tape 090, to me, did not truly cover the hyperactive child - would suggest adding more info.

Maybe there could be a couple tapes included just for children to listen too. On rainy shut-in days this may be a nice diversion for preschoolers. The tapes could be a friendly conversational type with a male & female voice asking questions. Some rhymes could be recited or animal noises identified also. Sesame Street voices may be of a particular delight also.

Please list any topics or concerns that you think might make good additions to the DIAL HARMONY program.

I would like to see tapes offered that deal with the older child.

Teaching young children to swim - when and how.

How to explain mental retardation to the neighbor kids when your child is retarded. More tapes concerning medically or physically handicapped children such as activities, games for them to do.

For the new "mom-to-be", maybe some helpful discussions on prenatal health, how to prepare for baby, Lamaze introductions, exercises, diet...some books contain a deluge of info but when you need to find a quick answer to a question it is hard to recall just where you read this.

DIAL HARMONY 2 FOR TEENS--FACTUAL, INFORMATIVE, HONEST AND ANONYMOUS
(OR: HOW TO INVOLVE YOUR TARGET POPULATION IN PROGRAM DEVELOPMENT TO GET A BETTER PRODUCT)

Lore Borth
Program Consultant
Dial Harmony 2, Waukesha, Wisconsin
Project HAPPE, Oconomonoc, Wisconsin

Where do teens in your area go for advice and information on personal concerns as diversified as buying a used car, feeling guilty about masturbating, hating a parent, being overweight, figuring out how far is "too far"? In the two adjacent southeastern Wisconsin counties of Milwaukee and Waukesha, an average of 1500 twelve to eighteen year olds call Dial Harmony 2 each month for help with these and 60 other topics of concern and interest to them. Dial Harmony 2 is a dial access audio information retrieval system developed specifically for adolescents. It offers 65 five to nine minute taped consultations that are factual, informative, honest, and--of prime importance for many in this age group--totally anonymous.

The program, developed and offered as a preventive mental health service by the Mental Health Associations of Milwaukee and Waukesha Counties, has been in operation since October of 1977. Funding for ongoing operation costs is provided by United Way, Unified Community Services Board of Waukesha County, and the Waukesha Service Club, Inc.

Dial Harmony 2 is the only dial access audio information retrieval system in the country whose tapes on practical, vocational, social and emotional concerns, physical health, sexuality, drugs, and problems with parents are designed for use by teens. Because there were no models or prototypes for us to follow during the planning, development, and implementation stages, we were both free and forced to experiment with selection of topics, design of narrative format, development of content and language, design and distribution of catalogues, choice of awareness/publicity promotion, and design of an evaluation mode. In addition, how best to gain community involvement and public support was a major consideration, given the sensitive nature of some of the topics with which we would be dealing.

Through trial and error, successess and failures, we've learned much about designing and implementing a dial access system for teens. It is my purpose in this paper to share with you what we learned--and, perhaps most important, how we learned it.

Dial Access For Parents of Preschoolers Forerunner of Dial Harmony 2

Dial Harmony 2 is numbered because it is the second "Dial Harmony" program offered by the Milwaukee and Waukesha County MHAs. The first, called just plain Dial Harmony, is a dial access system for parents of preschool children. It offers 100 three to six minute informational tapes on medical, dental, nutritional, safety and general concerns, helping the preschooler develop skills, build emotional strengths, and prepare for important events, the importance of working and playing together, and relationships between parents and family members.

The first Dial Harmony was developed in 1973 as part of a three year Title III, E.S.E.A. program called Project HAPPE (Home Aid for Parents in Preschool Education). HAPPE was developed and pilot tested in a six school district consortium, and administered by the Oconomowoc Area School District, located in Waukesha County. Why a dial access system for parents of preschoolers is answered on page 1 of the Dial Harmony Manual for Implementation:

> "for nearly every parent there comes a period in his child's early growth and development when outside help could be beneficial. Usually, the type of help needed amounts to little more than basic information in specific areas of concern. One type of [in-formational] delivery system seems to stand out as particularly successful in meeting this need: the telephone. As the level of sophistication in our society rises, most people find themselves with access to a telephone at any given time. The telephone is a

simple instrument to utilize, service is dependable, and cost to the user is minimal."

The 100 topics in Dial Harmony were selected by the professional staff of Project HAPPE; narratives were developed by the staff and evaluated by experts in the field; a well known local radio announcer narrated the scripts. Dial Harmony was first pilot tested in the Oconomowoc area in late 1973, and put into operation to serve all of Waukesha County residents in the spring of 1974, when the Mental Health Association in Waukesha County offered to house the physical system and aid in catalogue distribution.

In the months following program implementation, it became apparent that many of the calls originated in Milwaukee County. When the MHA in Waukesha County took over complete program operation and financial support as Project HAPPE funding ended in 1975, the MHA in Milwaukee County assumed financial responsibility for those calls originating from that County as well as catalogue printing costs and catalogue distribution for their area.

Dial Access System For "Older Kids" And Their Parents Requested By Dial Users

Positive results of extensive evaluation of the Dial Harmony dial access program by Project HAPPE resulted in two things: 1) the program was awarded national validation by the U.S. Office of Education as an outstanding innovative and exemplary educational program; 2) there were numerous requests for "tapes for older kids and parents of older kids." Follow-up data for all field testing on the Harmony system through July 31, 1975, showed that 35% of the users responding to mailed surveys indicated that they perceived a need for tapes for older children and parents of older children. (Four hundred forty-six questionnaires were sent out with 162 (36%) returned.) It is interesting to note that this response was not directly solicited, but was the overwhelming reply to the two open-ended questions on the mailed survey questionnaire: "How would you suggest the Harmony program could be improved?" and "Please list any topics or concerns that you think might make good additions to the Harmony program."

County Needs And Services Study Indicated More "Youth Personal Problem Counseling" Needed

At about the same time, Volume I of the Waukesha County Needs and Services Study was published. It reported the results of a 1974 survey conducted by the Waukesha United Way and the United Community Services of Greater Milwaukee (whose campaign area includes a large portion of eastern and northeastern Waukesha County), which indicated the following: that 63.8% of Waukesha County households polled on how they would rank a listing of 40 social services on the basis of perceived need indicated that the category "Youth Personal Problem Counseling" needed "more" service. More specifically, 25.2% perceived the need for more services as "great", 38.6% as "some", and 16.3% "no" with 19.7% n.a. (1,400 representative households from the County's total of 63,654 were interviewed; 1,200 interviews were completed for an overall response rate of 86%.)

The perceived need for more "Youth Personal Problem Counseling" ranked second only to the category "Drug Abuse Counseling," which 67.6% households ranked as one for which they perceived more social services needed.

Why Dial Access For Teens?

The need and requests for a dial access system similar to Dial Harmony but aimed at a different kind of target population were clearly there. A needs analysis for the service seemed to have materialized by itself.

Moreover, a dial access system designed specifically for the adolescent made inherent sense not only because it would offer professional information and advice at times convenient to the caller, for the minimal cost of a local phone call, but it would also allow the caller to receive this service in the privacy of his own home with total anonymity.

But the MHA in Waukesha County did not have the funds to develop such a program, Project HAPPE had run its three year funding course and neither the Oconomowoc Area Schools nor any of the other 5 school districts in the HAPPE consortium had the money, manpower, or mandate to develop a county-wide telephone information retrieval system. Where to go from here?

No Takers For Grant Proposal

Those familiar with how these things run their natural course will already have guessed the answer several paragraphs back: a grant proposal, to be submitted to any and all public and private funding sources with a penny to spare. In October of 1975, such a grant proposal was prepared by Ron Geraghty, Director of Pupil Services at Oconomowoc Area Schools, and Anita Heimsch, Executive Director of the MHA in Waukesha County. It called for the development and implementation of 125 tapes for kids six to eighteen and their parents, to be developed over a year's period by a staff of 3 at a budget of $52,825. Although that budget covered the contracted services of those professionals who would serve as content, evaluation and advertising consultants, and provided for the basic necessities of implementation equipment (i.e., telephones and tape playback equipment units), it was "barebones" at that.

And no one would touch it. For a year, the indefatigable Mrs. Heimsch beat the funding bushes. Money was, of course, tight. But it was more than that. Although the proposal stressed the concept of the right of the family to access to programs and funds which would "develop and maintain effective family functioning," it was also apparent to those who read between the lines that such a program, if it developed a dial access system for a target population some members of which would fall into the teenage years, might also offer tapes of a sensitive and potentially controversial nature. Most foundations and agencies contacted wanted nothing to do with having their money and names associated with a public service that might dispense advice on such topics as--horrors--homosexuality or menstruation.

Beginning--With $9,000 And Crossed Fingers

To paraphrase Shakespeare, "All's well that begins well." In September of 1976, we received $9,000 in Time Limited Project funds from The United Way of Greater Milwaukee. The Oconomowoc Area Schools offered technical services and free office space. I was hired as director and sole staff of the program, and we all kept our fingers crossed as we decided to "begin" in hopes that further funding sources would materialize. (In late fall of 1976, we were allocated $4,700 to be received in 1977 by the United Way of Waukesha County, and $4,000 by the private Mental Health Foundation of Milwaukee.)

Steering Committees First Priority

My first priority was the creation of two separate professional and parent steering committees to determine the philosophical and practical directions in which our fledgling program would go. A total of fourteen Milwaukee and Waukesha County school pupil service and mental health association personnel, private practice and public clinic psychologists and psychiatrists, drug abuse counselors, and parents of youngsters of all ages agreed to serve as steering committee members.

It was agreed upon by both committees that, due to the program's partial funding, primary consideration be given to the development of 65 tapes for young people. A joint committee brainstorming session involving all members yielded 102 tentative topics for potential development. It was also recommended that the target population twelve to eighteen be involved in the final topic selection process through survey.

Survey of Target Population Determined Final Topic Selection

A survey instrument which briefly annotated each of the 102 items to shed light on what subjects each topic might cover was prepared. Utilizing a Likert scale rating of 1 to 3 (1=low need, 2=medium need, 3=high need), survey respondents would be asked to rate each item on the basis of perceived need (both theirs and their peers). Although the majority of the 102 items were as innocuous as "How To Help Your Parents Hear What You're Saying (Communication techniques for helping your parents understand the importance of hearing and respecting what you have to say)", there were enough along the lines of Masturbation (What is it? Is it abnormal? Is it harmful? Guilt and fear about masturbating)" to make most of the school administrators contacted for help in administering the survey reluctant to take part. This hesitation was understandable, since anything that smacks of sex education in the public schools is still as controversial an issue in southeastern Wisconsin as it is in most other parts of the country.

The principals of Oconomowoc Senior High School (Waukesha County), and Vieau Middle School (Milwaukee County), however, consented, and a fairly representative sample of the target population was put together. 150 males and females, ages 12 through 17, took part, with an age and sex distribution as follows: females, 12 through 14, n=36; males, 12

through 14, n=32; females, 15 through 17, n=32; males 15 through 17, n=50. Oconomowoc Senior High provided a white, middle class, small city and farm survey population of males and females 15 through 17, and Vieau Middle School provided a lower middle class, racially mixed, bilingual (Spanish-English), large city survey population of males and females 12 through 14. (The survey instrument was translated into Spanish for some of the Vieau School pupils more at ease with Spanish than English.) Respondents were asked to mark the survey form with age and sex identification only.

Teens And Adults Differed in Topic Selection

The same survey instrument was also administered to approximately 30 steering committee members and other parents of teens and professionals working with teens. The results of both adult and target population surveys were tabulated separately, and two curious phenomena occurred. The first was that most of those items consistently ranked 3 (high need) by the adults came through as 1 (low need) when ranked by the target population, and those items consistently ranked 3 (high need) by the target population came through as 1 (low need) when ranked by adults. Most of the topics ranked high need by the adults and low need by the teens were found in the general categories "Relationships Between You and Your Parents/You and Other Adults," "Family/Life Concerns," and "Financial Concerns," whereas those ranked high need by the teens and low need by the adults were found in the categories "Understanding Yourself" and "Moral Concerns." This was the first serious indication that we adults, professionals and parents alike, did not know as much as we thought we did about the personal problems and needs of the young people we worked and lived with.

Curious Phenomenon Of Misleading Survey Results

The second phenomenon also presented a puzzle. Some of the items on which we had thought the younger age range, especially, might welcome factual and anonymous information did not register as "high need" items on the survey results, e.g., menstruation, nocturnal emission, masturbation, homosexuality, sex role doubts, sexual advances from relatives and family friends, etc. Had we strictly followed the results of the survey in determining final topic selection and not involved the target population beyond this stage, none of these subjects would have been included in Dial Harmony 2. But several are, and how that happened is interesting. The young people I eventually worked with in script development felt that the younger teens, especially, needed information on these sexuality topics, and asked that several of them be included. They theorized that these topics did not register on the survey results because for the kids taking part in the survey, even anonymously marking those items was an admission to self of unhealthy interest in areas most had been taught were taboo.

Percentage Of Frequencies In Most Positive Response Category Determined Topic Selection

Utilizing only the target population survey responses, a frequency analysis of the tentative topic items was computed on the basis of percentage of frequencies in the most positive response category, i.e., labeled 3=high need. For some items, only the males' or the females' responses were used to determine the percentage, although the responses of both sexes were tabulated. The "top" 65 items were then chosen as topics to be developed, after several necessary changes were made. For example, the item "So You're Overweight or Underweight" was split and developed as two separate topics, and masturbation and homosexuality were added, despite their low ranking, etc.

Original Dial Harmony Development Format Scrapped

The next step was development of narratives. The process seemed fairly simple: each subject area was to be researched, topics developed into three to five minute length scripts, and scripts submitted to experts in the field for evaluation of content validity (three per script). That was the formula used for Dial Harmony, which had already proven itself as a successful dial access system.

However, the strange discrepancy between the topic selections made by the young people surveyed and those made by the parents and professionals hadn't taught me what it should have: that what we think the kids want to/should know is not what they feel they want to/should know. I was to learn this lesson, however, in no uncertain terms fairly soon--and quite by accident.

Because our funding one month into the project was slightly less than 1/5 of our projected budget, it was thought that a tape which would demonstrate to potential funding sources what Dial Harmony 2 was all about might be helpful. I chose as the topic for my demonstration tape "How To Help A Friend Who's Thinking About Suicide," researched it, wrote the script, and submitted it for content approval to a psychiatrist in private practice specializing in adolescent problems, a psychologist at a family mental health clinic, and a high school social worker.

The evaluations came back with glowing comments like "Great! Just what the kids need,"..."sound approach,"..."excellent advice." The same adult male voice that was such a hit on Dial Harmony recorded the script, and we were in business with our first demonstration cassette. One down and sixty-four to go.

If what happened next hadn't happened, Dial Harmony 2 might have gone down in history as the only dial access system designed especially for teens but never used by teens.

"How To Help A Friend Who's Thinking About Suicide" was played by Mrs. Heimsch's teenage son and five of his teenage friends who happened to be hanging around the house one night with nothing much else to do. And it bombed. The advice was something they wouldn't follow, the explanation of the suicidal friend's emotional state was too clinical, the voice was just another authoritarian male telling them what to do, the words were too difficult, it was too long--you name it, and it was wrong on that tape.

If the survey lesson hadn't sunk in, this one certainly did. I scrapped the format for script development and just about everything else. Apparently, what worked well for Dial Harmony would sabotage Dial Harmony 2.

New Approach: Total Target Population Input

And so was born the idea for the project design and development that, more than anything, makes Dial Harmony 2 "factual, informative, and honest"--and used in astonishing numbers by the people for whom it was intended.

It seems so simplistic in retrospect: if the program was intended for twelve to eighteen year olds, why not go to those young people and find out what questions and concerns they had about buying a used car and birth control, for example. Take it one step further: What approaches had worked, or failed to work, for them in coping with personal, family or any other kinds of problems they had encountered? What advice did they consider practical and what information useful? What would they share with their peers?

Oconomowoc Senior High School, the Paper High School (an alternative school in Oconomowoc) and Eisenhower Senior High School in New Berlin (a Milwaukee suburb) were approached for help in finding young people to work with me on tape content development. A total of 81 high school seniors (the sensitive nature of some of the topics to be considered made school administrators wary of allowing me access to the younger students) were identified by teachers and administrators, and contacted for possible participation. A small group of 9 outstanding student leaders and academic achievers was rounded up at Eisenhower High School. Eight Paper High School students volunteered. They could perhaps be characterized as dropouts who had returned to school, students on work-study programs, and those whose special academic or career interests were being met with a combination of traditional curriculum and independent study. The remainder of the 81 students were drawn from three senior level Communications classes at Oconomowoc Senior High. This was a "mixed bag" of kids--academic underachievers and potential drop-outs who were streetwise, tough, and honest kids, many of them from "broken" homes.

Informal "Rap" Sessions Produced Tape Content

For the next seven months, I met with these young people one hour a week for informal "rap" sessions. The Eisenhower and Paper High School groups were small enough for easy, comfortable discussions. The three Communications classes each split into smaller groups of five to six at every session, each group choosing its own discussion leader and recorder. I either sat in on one group for the full hour, or circulated among the groups as questions arose. At the end of the hour, the recorders turned in their discussion notes to me. The classroom teacher discreetly left the classroom or retreated to a "neutral" corner during the sessions.

Each of the 65 topics selected for narra-

tive development was discussed by at least 5 different groups. Sometimes groups chose to spend the full hour on a topic, sometimes they worked on more than one, often they elected to continue a discussion during the following week, or return to it sometime later.

No one was forced to take part in discussion, but that was not a problem. In fact, just the opposite occurred. Response was overwhelming. Everyone had a younger brother or sister or friend who was going through this or that. Some disclosed that the topic under consideration had been or was a real problem in their lives. They admitted that they needed this or that kind of help or information, and didn't know where to go to get it. Those with younger brothers and sisters volunteered to get their input. They offered advice on what had and hadn't worked for them as they tried to solve their problems. They argued among themselves.

And, whether straight A student council president or D average truant, most had the same kinds of concerns--but often from a totally different kind of perspective. For example, the topic eventually developed into the tape "Tired of Being Compared? What To Do About It" touched a nerve with everyone. But whereas the "problem" kids felt resentment because their parents unfairly compared them to those who did better, the "exemplary" kids felt the same resentment because their parents, without being given cause, fearfully related stories of kids gone "bad" while admonishing them not to follow the same path.

Input for several of the topics that dealt specifically with female sexuality was gathered in a different way. Each member of several (all-female) Child Development classes at Oconomowoc Senior High was asked to write down at least five questions she had on the following: "Growing Up Female: What's Happening To My Body?", "How Does Someone Become Pregnant?, "Birth Control Information", and "Abortion Information". These questions were then collected and discussed in full class sessions. The classes then ranked those questions that they felt needed to be answered on the tapes dealing with those issues.

Need Expressed For Localized Information On Tapes

21 of the 65 Dial Harmony tapes are localized--that is, the message concludes by offering names, locations, and telephone numbers of agencies the caller can contact for further information or specific kinds of help. Included are Planned Parenthood hotlines, crisis hotlines, career counseling services, and child protective services, among others. This feature was added at the request of the young people who worked on content development. They reasoned that since adults don't often know enough about these kinds of agencies in order to get help before it's too late, we certainly can't expect kids to know either. Why not have the taped message, in addition to providing information and advice, also refer the caller to the kinds of resources that might help him?

These resources, however, had to meet certain criteria or else we would lose our credibility among young callers, they insisted. Specifically, they had to offer low or no cost counseling or services, specialize in or have experience helping young people, maintain client confidentiality (read "not notify parents"), and be available in both Milwaukee and Waukesha Counties for easy access to all callers.

In response to this request, appropriate agencies were contacted and often visited personally to check out their policies and practices against the criteria provided by the students before being invited to join Dial Harmony 2 as referral agencies.

While the group discussions continued throughout the winter and spring of 1976 and 1977, work on script development was progressing. Those scripts dealing with the "problem discussion" types of topics seemed to write themselves, often utilizing only student input, (e.g., "So You've Lost Your Parents' Trust... Can You Get It Back?"). Others, especially those dealing with sexual/medical/legal topics, required extensive research in addition to student input.

All Scripts Developed According To Same Organizational Structure

The development of all scripts followed the same basic organizational structure:
preorganizer: "This is what will be said..."
content: "This is what to do..."
(caution:) "However, be careful of..."
(referral:) "If you want further information or help, please call..."
post-organizer: "This is what was said..."
More specifically, the preorganizer consists of a brief introductory paragraph mentioning the topic with which the tape deals and commending

the caller for his interest in the topic and his efforts in seeking help with his concern. The content consists of the body, breaking down the topic area in its major aspects. The length and number of paragraphs depend on the complexity of the topic. The caution (when necessary) consists of a paragraph or two at the conclusion of the body giving warning about what not to do in certain situations. The referral (when necessary) gives information on resources available for further information or help. The post organizer is a closing paragraph that succinctly recaps what was said.

This organizational structure also reflects the first three levels of cognitive learning, according to Bloom's taxonomy: knowledge, comprehension, and application. In the affective learning domain, attention is focused on the first two levels, attending and responding.

Content Evaluation Of Complex Topics: As Many As 15 Experts Per Script

As the first drafts of several scripts were completed, the question of content validity evaluation had to be reexamined, also, in light of the new direction program development had taken. Still absolutely necessary, of course, was review of scripts by experts in the field. But who qualified as an expert in the field on a topic as complex, say, as abortion? The clergy, school age parent counselors, Planned Parent problem pregnancy counselors, parents, medical doctors, abortion clinic personnel, social workers, legislators, the young girl who has had an abortion? The solution was to reject the original Dial Harmony "three experts in the field" approach and enlist the help of as many as possible, all experts, but many seeing the issue from their particular professional and personal perspectives. Some scripts were reviewed by as many as 15 professionals, but the average was five to seven evaluators per script. (Although there were no monies available in the budget for professional content consultants, this proved to be no problem. Everyone contacted willingly volunteered his or her services.)

"Playing It Safe": Steering Committees' Members Also Evaluate All Scripts

It was becoming quite evident, at this point, that the content of several of the tapes would prove to be even more controversial than the topics first would have suggested, primarily because the information provided was in response to what our young advisors said teens needed to hear, not a reflection of what we adults thought they should hear. We had, of course, realized early on that gaining community involvement and public support would be essential ingredients in the acceptance of the program by the general public. Since members of the two steering committees represented a good cross section of respected professional and parents from both counties, a thorough familiarity with and acceptance of the content of all tapes on their part would do much to help promulgate good will towards the program, if ever they were asked to defend it against public criticism. Consequently, each of the 14 committee members was asked, and consented, to review and evaluate all of the 65 scripts in first draft and final form.

Each Script Also Reviewed By Target Population for Content Validity--And More

We had also, by this time, firmly committed ourselves to the process of target population input during every stage of the program development process. Thus, every first draft was also reviewed by at least 30 of the young people working with me on content development.

For this step in the evaluation process, a formal evaluation questionnaire was developed to assure response uniformity. Because the information transmitting medium was audio, the script was read to them rather than submitted in print form. The evaluation tool consisted of seventeen questions on the language, format, ideas, advice and information presented in each narrative. Evaluators were asked to respond "yes" or "no", and if "yes" (or "no"), "why" (or "why not") to each of the following questions:

(Language)

1. Is the level appropriate for someone 12-18 years old? (The age of the caller will depend on the topic.)
2. Is the vocabulary too difficult?
3. Is the vocabulary too simple?
4. Any words you don't understand?
5. Does the attitude of the speaker seem friendly and helpful?
6. Does the speaker seem to talk down to the audience?

(Ideas, Advice, Information)

7. Is the information given practical? (Could the listener apply it?)
8. Do you think the advice would work?

9. Is the information adequate?
10. Is all the *information presented necessary?*
11. Is the information presented clearly enough? (If no, which parts were difficult to understand?)

(Format)

12. Would the introduction put you at ease about calling?
13. Does the introduction clearly explain what is going to be on the tape?
14. Is the introduction too long?
15. Will the conclusion remind the caller of the main points presented?
16. Is the tape too long?
17. Is it too short?

(In addition, one open-ended question called for "other comments, please".)

This formal evaluation approach was supplemented with an informal verbal critique by each group after listening to the script and filling out the questionnaires. I was to learn, once again, that these young people were tough but honest customers, and that nothing escaped their notice. A word with negative connotations, a sentence that ran on too long, advice that sounded condescending--they picked each script apart, and then helped put it back together. But they were also sensitive to what was good, and let me know they appreciated that.

The second and third, sometimes even fourth and fifth drafts of the scripts reflected responses to critique from all three groups (experts in the field, steering committee members, and young people). Sometimes these drafts were resubmitted to one, two, or all three for further evaluation. Final scripts were submitted to all parent and professional steering committee members for approval.

Implementation On A Shoestring

This phase of program development had consumed the better part of the year, and program implementation still lay ahead. If our resourcefulness had already been challenged, it was really going to be taxed now, however, as our $17,700 budget was near depletion. No more funding had become available during the year, and we had yet to cover the costs of professional narrator fees and studio recording time, telephone playback equipment, catalogue design and printing, and survey design to test system use and effectiveness. We had reacted a la Scarlett O'Hara, saying we'd worry about that tomorrow, and suddenly the day of reckoning had arrived.

The way we solved our money problem was not an ideal approach to program implementation, and I certainly wouldn't recommend it to anyone else, but it worked for us. It had to.

Our young advisors had already suggested we use young, non-threatening voices to record the tapes. The local radio announcer who had recorded Dial Harmony referred us to the high school junior (female) and the college freshman (male) who assisted him on his daily radio program. They had young voices, broadcasting experience, and were willing to work cheaply. Our sixty-five scripts were recorded for under $400.

Saving on studio recording fees by recording directly on cassettes using a cassette tape recorder was another economic measure. Since all telephone lines pass low frequencies and reject high frequencies, and thus transmit the same quality sound regardless of the quality of the tapes, this approach did not impair message transmission.

The logo for Dial Harmony 2, a stylized telephone dial circling the words "Dial Harmony 2," was designed by a commercial artist who donated his time. A local printer was willing to print an initial batch of 5000 catalogues and delay billing until we found the money to pay for them.

Custom Designed Playback Unit

A gift of $1,500 to the MHA in Waukesha County from ECCO (Employees Charitable Contributions Organization) of GE Medical Systems, Inc., of Waukesha had been earmarked for the purchase of a playback unit which would replace the small and antiquated Dial Harmony units and handle the additional Dial Harmony 2 calls. This unit was designed to our specifications by GTE Automatic Electronic, Inc., another Waukesha firm, and consists of a console housing 6 Sylvania cassette tape recorders hooked up to a telephone with 5 incoming lines. Each line corresponds to one of 5 tape recorders; pushing the "hold" button activates the tape. The sixth tape recorder is used for rewind, testing of tapes, etc. This specially designed equipment required licensing from the FCC, which was applied for in late summer of 1976.

All systems were "go" for Dial Harmony 2

by the end of September, 1976, and we were all anxious to put the program into operation and watch it take off. However, FCC licensing for the playback unit was delayed. We decided to construct a makeshift playback system and go ahead with catalogue distribution to Waukesha County high schools. The calls started coming in on October 18, and for the next three months, pandemonium reigned in the outer offices of the Mental Health Association of Waukesha County.

Because what we had constructed as a makeshift "playback" unit was a small cassette recorder, and as a call for Dial Harmony 2 came in, the telephone's mouthpiece was draped over the tape recorder speaker for message transmission. The volume on the tape recorder had to fall within a normal listening range and, since the system was located in the outer offices, everyone within earshot--receptionists, typists, counselors, and clients waiting for appointments--heard whatever message was being played, whether they wanted to or not. The most frequently requested tape was and still is "Masturbation," with "How Far Is 'Too Far'?" a close second, and everyone got quite an education. The whole procedure bordered on the ridiculous when, despite the primitive service and no publicity, calls increased to the point where two tape recorders had to be used, with a cardboard box put over one when both were in service so that the messages wouldn't be garbled.

FCC approval finally came through in January of 1978, much to everyone's relief.

Increasing Call Rate Indicates Growth Of Program

The Dial Harmony 2 line is open 5 days per week, Monday through Friday, from 8:30 a.m. to 10 p.m. Peak call hours are between three and six and again between eight and nine in the evening.

During the seventeen months of operation between October 18, 1977 and March 21, 1979, Dial Harmony 2 received 18,768 calls. In those 2½ months when the tape recorder served as playback equipment, calls averaged 752 per month following an initial catalogue distribution of 5,000. By December of 1978, another 15,000 catalogues had been distributed, and the average monthly call rate was up to 1,050. Between January 1, and March 21, 1979, another 2,000 catalogues were distributed (bringing the total number of catalogues distributed since the start of the program to 22,000). The average monthly call rate for the first three months of 1979 has jumped to 1,592.

Cassia Kummrow, a fifteen year old Youth Employment Program worker at the MHA in Waukesha County, is shown answering Dial Harmony System calls.

As mentioned above, Dial Harmony 2 services two counties. All calls from Milwaukee County are local calls, as are most from Waukesha County. Those from Waukesha County that are long distance are serviced through an Enterprise number, which automatically makes it a collect call.

Catalogue Distribution

According to the official 1970 U.S. Census figures, the total target population of twelve to eighteen year olds in Milwaukee County is 119,835; in Waukesha County it is 32,582. Approaches in reaching that population with news about the availability of the Dial Harmony 2 service differs in the two counties. In Waukesha, the MHA does mass distribution of the catalogues in high schools, and makes catalogues available to libraries, the Y's, churches, and doctors' offices, upon request. It also mails out individual catalogues in response to telephone requests. In Milwaukee, MHA mails out catalogues on request, but no mass distribution takes place. However, over 50% of the calls received come from Milwaukee County. Perhaps this can be accounted for by the fact that radio and TV public service announcements about Dial Harmony 2 also serve that area, the Milwaukee Journal printed relevant catalogue particulars in a feature article, and an area-wide student newspaper, Metro Student News,

reprinted the catalogue for clip-out.

The catalogue itself is a 3-fold 8½" x 10" sheet. The inside surface lists the following: the number to call (with directions for using the Enterprise number should the call be long distance), the hours, directions for use, and a note that the caller might want to have paper and pencil ready for tapes marked with an asterisk (which identify those tapes which contain referral information). The tapes are listed individually by number and title under the general categories of Practical Concerns, Vocational Concerns, Physical Health, Sexuality, Problems with Parents, Emotional Concerns, and Drugs. Many are cross listed, so that, for example, D714 "What To Do If You Think You're Being Abused," listed first under the Emotional Concerns, is also listed under Sexuality. The outside of the catalogue is printed with an overall description of the program on the first fold, the MHA return address and a 24 hour hotline number for "referral, counseling and additional information" on the second (mailing) fold, and a request for user evaluation feedback on the back fold.

When a call comes in, each caller is asked what tape he/she would like to hear, and "for survey purposes," what city he/she is calling from. As the tape is put into play, the following information is recorded on a grid sheet: date and day (prerecorded), time, and tape number requested. Each sheet records information for ten calls, and a running total of the year's calls to date is kept by transferring the number in increments of ten to the top of each succeeding sheet.

"Top 13" Hit Parade Of Most Popular Tapes

The "top 13" calls for 1978, in order of frequency called, represent an interesting cross section of the interests and concerns of the twelve to eighteen year old range: they are as follows:

1. D408 Masturbation
2. D407 How Far is "Too Far"?
3. D401 How Does Someone Become Pregnant?
4. D409 Homosexuality
5. D406 Sex and Love: Is There a Difference?
6. D400 Growing Up Female: What's Happening to My Body?
7. D100 Tips on Finding a Part-time Job
8. D402 Am I Pregnant?
9. D300 Overweight?
10. D403 Birth Control Information
11. D405 VD: What Is It? What To Do If You Think You've Got It.
12. D600 Is Everybody Dating But You?
13. D303 How To Kick The Cigarette Habit

Yearly Operating Cost For Both Dial Harmony Systems About $15,000

The total program development cost for Dial Harmony 2 amounted to $19,200, including purchase cost of playback equipment. It is difficult to arrive at accurate yearly operating cost and cost per call figures, however, because the MHA in Waukesha does not maintain separate accounts for the Dial Harmony and Dial Harmony 2 systems. The total operating costs for 1978 were $15,082, which included telephone expenses, office supplies, postage, printing, and salary and fringe benefits for administrative and clerical personnel.

If we extrapolate from the total of $15,082 the operating cost for Dial Harmony 2 on the percentage of calls received (which was 12,604 out of a total of 17,535 for both systems, or 72%), that figure would be $10,859; the cost per call figure would be 86¢. However, that cost per call figure is misleading. Dial Harmony, at 4,931 calls during 1978, and 28% of the operating costs (or $4,223), also shows a cost per call figure of 86¢. We know that since the bulk of operating costs remain fairly stable regardless of the number of calls, the higher the number of calls, the lower the per call figure. This is not borne out by the per call rate for the two Dial Harmony systems, however, because of the difficulty in determining the true operating costs for each.

It must be noted, also, that the operating cost figure cited (and the cost per call rate) reflects the staffing and operation of the system by paid personnel. If volunteers were utilized to answer phones and compile data, the costs would be considerably lower. The 1978 operating cost of an all volunteer Dial Harmony 2 system, for example, would have been $2,375, with a cost per call figure of 19¢. An all volunteer approach may not be feasible, but it is important to see both ends of the cost spectrum.

Several Approaches Used To Determine System Effectiveness

Several approaches to an evaluation of the Dial Harmony 2 program by educators, community

leaders and target population (users) have been devised and utilized. The first evaluation, held in the summer of 1978, was a letter of invitation to 25 community leaders to "preview" the tapes by calling the MHA office. Included were clergy, educators, youth agency personnel, school board members, law enforcement personnel, and physicians.

These participants were also asked to respond to a formal questionnaire which dealt with such items as whether or not they would recommend the program to youths they worked with, to others working with young people, and to parents of young people. Comments about information and advice given in the tapes were solicited. Respondents were also asked whether they would publicly endorse the program, and whether they would care to make comments that we could use in news releases to the media. (Responses typical to the last question were "Excellent. Content material is well thought out and carefully expressed on a level of average young person" (teacher); "As teachers we often deal with these problems and concerns...but we have nowhere near the scope and anonymity that your program offers" (teacher); and "solid advice that a person can use" (clergy).

Prior to catalogue distribution, and as a means of gaining the support of school administrators for the program, 34 Waukesha County high school and middle school principals were sent letters describing the program (and containing the preview comments by the community leaders involved in the previous evaluation). They were asked to preview the program themselves, and for permission for catalogue distribution in their schools. Only 8 principals did not respond to requests for catalogues, and most of these were middle school level.

User Reaction Difficult To Gauge

An actual evaluation of program effectiveness through survey of program users has been more problematic, due to the promise of anonymity given to users. Several approaches, with varying degrees of effectiveness, have been tried. Imprinted on the back of the catalogue is the message "We need to know what you think. Is Dial Harmony 2 FACTUAL, INFORMATIVE AND HONEST? Drop us a note. We need your ideas in writing. No names are necessary, but we'd like to know how old you are. Mail comments to MHA, Room 101, 414 West Moreland Blvd., Waukesha, WI 53186." A number of young people have taken the time to write, and the responses have been overwhelmingly positive. Typical is this letter we received recently: Dear Dial Harmony 2,

I am so pleased with your program that I just had to write and thank you. I'm 13 years old and like all kids my age I have some problems.

I really had all my problems figured out when I saw your pamphlet. The only reason I called was because I wanted to see if the answers would be true. I was afraid the answers would be more old fashioned and not true.

Yet, I found out that you are very factual, informative, honest, and anonymous.

I'm very pleased that teen agers now have someplace they can call to get good, free, and anonymous help to all kinds of problems.

Thanks!

Gratefully,
(name deleted)

A more aggressive approach to obtaining evaluation feedback was the mass distribution of questionnaires in the form of flyers sent along with packets of catalogues distributed to schools. Returns have been sporadic, however, most likely because we have no control over actual distribution and collection of these questionnaires.

Hopeful For Post Card Evaluation Returns

Within the last month, prepaid postal cards asking for information on age, sex, city of residence, number of tapes listened to, and response to 3 questions (Was the information helpful? Yes___ No___ Comments:_____; Did you use any of the ideas suggested in the tape? Yes___ No___ Comments:_____; Do you have any suggestions for new topics?) have been included in every 10th catalogue mailed out on an individual request basis. Responses received to date have been uniformly favorable. Replied one user who had called tape D701 "Becoming The Person You'd Like To Be": "I thought it was good 'cause it helps you to be yourself, and not try to be like someone else or not try to dress or act and be like everyone besides yourself. I also think more people in our school should listen to them, then maybe they could change and not be so stuck up."

Perhaps the most gratifying evaluation response to date has come from a teenage caller who had listened to the tape "How To Help A Friend Who's Thinking About Suicide." The reply to a question on whether or not the information had been useful (received on a returned "flyer" questionnaire) was "Yes--my friend is no longer talking about suicide."

Unexpected Outcomes: More Good News

There were certain expectations the funding and sponsoring agencies had for Dial Harmony 2 that, if met, would have deemed the program "successful": a high user call rate, positive evaluation responses, and acceptance by the community.

There were also outcomes, however, that were as unexpected as they are gratifying. Some are more significant than others, but all bode well for the continued success and growth of the program.

One is evident use of Dial Harmony 2 by parents. Although tapes for parents of teens did not get developed due to budgetary restrictions, parents of teens and younger children are utilizing the existing program, whether to get some concise, factual information on certain topics for themselves in order to help them with their parenting, or to listen to certain tapes along with their offspring in order to establish a common ground for communication.

Another unexpected outcome is the use of program by school counselors. Many times, they tell us, young people come to them with particularly sensitive questions about subjects they aren't allowed to dispense information and advice on. If a certain Dial Harmony 2 tape deals with that topic, however, they can hand over a catalogue along with the recommendation that the youngster call us.

Catalogue printing costs have been slightly reduced for us because the largest high school in the area has reprinted the Dial Harmony 2 catalogue in its student operated print shop as a school project to benefit the whole school.

But, by far, the most surprising unexpected outcome has been the number of requests for information about the program from all over the country, several of them leading to implementation of the program in other areas.

Calls from throughout Wisconsin and as far away as Ontario, Hawaii, California and Texas resulted in the compilation of scripts into a 164 page Dial Harmony 2 Manual for Taping, available from the MHA in Waukesha County for $50. Dial Harmony 2 is now Phone-A-Fact in San Antonio, sponsored by the local Mental Health Association. It is still called Dial Harmony 2 in Portage County, Wisconsin (also sponsored by the MHA), and in the Wausau-Marshfield area of central Wisconsin, where it is offered by the Marshfield Clinic. Plans are underway by the Cooperative Educational Service Agency that serves the Madison (Wisconsin) area to install the system.

And We're Just Beginning--Again

An additional funding source has finally come through for the expansion of Dial Harmony 2, two and one half years after the start of the program and from unexpected quarters. In 1978, the Wisconsin State Legislature provided the Department of Instruction $450,000 to develop programs in human growth and development. The DPI, in turn, allocated each of its 20 Cooperative Educational Service Agencies (CESAs) $25,000 to carry on the work. And CESA #16, the agency that serves Waukesha and adjacent portions of several counties, in March of this year chose to use $19,000 of its allocation to develop 20 more Dial Harmony 2 tapes, ten for teens and ten for parents of teens.

The formula that was so painfully arrived at in Dial Harmony 2 is being applied once again. This time around, planning target population input for all phases of program development was the first priority. The list of tentative topics for use in the survey instrument that's now being designed came from our young advisors. Middle school administrators have offered to make younger students available to us for topic survey and tape content development. Several of the topics that fell between the cracks the first time around ("Growing Up Male: What's Happening To My Body?", and a tape on venereal diseases other than gonorrhea and syphilis, for example) are already in script form. We had more volunteers than we could use for our professional and parent steering (renamed "advisory") committees.

To quote Shakespeare correctly this time, "All's well that ends well."

# # # # # # #

The complete Dial Harmony 2 library of 65 tapes is listed here by tape number and title. Those marked with an asterisk(*) indicate tapes which contain localized information.

PRACTICAL CONCERNS

D100 Tips on Finding A Part-time Job*

D101 Buying A New Or Used Car?*
D102 Car Loans And Car Insurance Information*
D103 Moving Out?*

VOCATIONAL CONCERNS

D200 Too Young To Know What You Want To Do For The Rest Of Your Life?*
D201 Alternatives To Attending College*
D202 Making A Career Choice That's Right For You*

PHYSICAL HEALTH

D300 Overweight?
D301 Underweight?
D302 Coping With Your Skin Problems
D303 How To Kick The Cigarette Habit*

SEXUALITY

D400 Growing Up Female: What's Happening To My Body?
D401 How Does Someone Become Pregnant?*
D402 Am I Pregnant?
D403 Birth Control Information*
D404 Abortion Information*
D405 VD: What Is It? What To Do If You Think You've Got It*
D406 Sex and Love: Is There A Difference?
D407 How Far Is "Too Far"?
D408 Masturbation
D409 Homosexuality

PROBLEMS WITH PARENTS

D500 So You've Lost Your Parents' Trust...Can You Get It Back?
D501 Why Do I Sometimes Feel That I Hate My Mother Or Father?
D502 How To Help Your Parents Hear What You're Saying
D503 No Communication With Your Parents?
D504 Tired Of Being Compared? What To Do About It?
D505 Problems With Parents Over Fighting With Your Brothers And Sisters
D506 Problems With Parents Over Friends And Dates
D507 Problems With Parents Over Hours
D508 Problems With Parents Over Smoking (Cigarettes)
D509 Problems With Parents Over Drugs*
D510 Why Can't I Do What I Want? Coping With Rules
D511 When Your Parents Complain About Your Attitude Or Lack Of Respect
D51 Expected To Act Like An Adult But Treated Like A Child?
D512 "When I Was Your Age..."
D513 Living With A Parent Who Has A Drinking Problem

SOCIAL CONCERNS

D600 Is Everybody Dating But You?
D601 Going Steady: What's In It For You?
D602 How Important Is It To Be Popular?
D603 Being A Woman In Today's World
D604 Dealing With Your Shyness
D605 Is Shoplifting Stealing?
D606 Lying
D607 Feeling Pressured To Cheat (In School)

EMOTIONAL CONCERNS

D700 Handling Your Anger (Jealousy, Hurt, Etc.)
D701 Becoming The Person You'd Like To Be
D702 It's Not Easy Being A Teen
D703 Feeling Lonely?
D704 Feeling Really Down? How To Cope With It
D705 Do You Feel That Nobody Loves You Or Cares About You?
D706 Why Do I Always Feel So Guilty?
D707 Are You Unhappy With The Way You Look?
D708 Dealing With Rejection
D709 Why Do I Sometimes Feel That I Hate My Brother Or Sister?
D710 What To Do If You Hate Your Teacher
D711 How To Help A Friend Who's Thinking About Suicide?*
D712 Are You Thinking About Suicide?*
D713 If You're Thinking Of Running Away From Home...*
D714 What To Do If You Think You're Being Abused*
D715 Coping With The Death Of Someone You Love

DRUGS

D800 Combining Alcohol And Other Drugs (Or, What You Don't Know Can Hurt You)*
D801 Why Do You Drink?
D802 Are You Drinking Responsibly (Or Irresponsibly)?*
D803 Some Facts About Drugs*
D804 Drug Dependency*

DIAL ACCESS, A PRACTICAL EDUCATIONAL RESOURCE

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Grossmont Union High School District
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The Grossmont District of La Mesa, California borders the city of San Diego and covers an area of approximately 500 square miles. The Union High School District (9-12) is made up of nine comprehensive high schools, one special education school, two continuation facilities, and serves 22,500 students. In addition, 15,000 students are enrolled in adult school classes. The district serves a community of approximately 270,000 people made up of a varied cross section of socioeconomic groups.

Background

The Grossmont Telephone Information System (GTIS) is the result of an innovative project which began in March of 1975. The purpose of the project was to increase counseling information services to the schools and community without the addition of staff. GTIS provides cost effective information service.

Solution

Several criteria were set down for selection and use of such a service.

- It must help answer frequently asked questions without using additional counselor and professional time, thereby freeing professionals for more individual counseling.
- It must be accessible to students and parents during non-school hours.
- It must meet demands for new information by providing answers from experts.
- It must answer questions correctly and uniformly, providing the same answers to students and parents.
- It must protect the anonymity of the caller, if that is needed.
- It must provide information that is accurate and current.

How Does It Work?

GTIS is a multi-channelled tape playback system. Students or parents may call in from home or school and request tape selections. The operator selects the tape for the caller, who receives the message via telephone immediately. Upon completion of the taped message, the circuit is automatically cut off, the telephone line disconnected, and the operator signaled to remove the cartridge.

The hours of operation have been limited by availability of funds. The system is available from 8:30 AM-2:30 PM and 6:00 PM-8:00 PM, Monday through Thursday. On Fridays, the time differs. The console opens at 7:30 AM and shuts down at 2:30 PM. The operator is an aide assigned through the career center and is assisted by selected student office assistants. The aide is paid on an hourly basis and the students receive office assistant credit -- 2.5 units per semester.

The original tape library was begun with thirty-two commercially prepared tapes. During the past months of operation, new scripts have been written and tapes prepared by a district selected committee. Forty new tapes were added during the second year of operation.

At the present time, approximately 160 tapes are available in categories such as:

- Study Learning Improvement Testing
- Personal and Interpersonal Adjustment
- College Counseling and Guidance
- Vocational Counseling and Guidance
- Personal Finances
- Health and Safety

- Special Student Needs
- Graduation Requirements, Competency Testing
- Legal Issues
- Parents Aid and Support of Student

Tapes are reviewed and edited annually to insure accuracy and current information.

A unique quality which the system provides is availability of information upon demand. The timid, as well as aggressive, could relate to GTIS and most important to the user is the factual information made available.

Limitations are a consideration. The caller, upon identifying a topic of interest, must realize that the information he/she is searching out is primary. If there are secondary motives of personal counseling needed, this cannot be accomplished through use of the system. Complex problems dealing with academic and vocational questions must be dealt with through the professional skills of a counselor.

Continued Support

GTIS has been well received by the community as well as students. However, decreases in demands are directly attributed to the lack of sustained publicity. Receiving information by phone is a relatively new concept and people must be reminded of that service. Also, a matter of concern is the continual search for current topics. Quality scripts, as well as tape production, take time and financial backing.

A complete record of incoming calls to the system is maintained. "High and "low" periods of usage in the early months were obvious. Now that the system has become more publicized, calls have developed a more continuous usage pattern.

Future plans call for continued critical evaluation. The style and format of tapes and scripts will vary. Increased publicity and periodic analysis of response to the system will be an ongoing part of the evaluation.

EXTERNAL DIPLOMA PROJECT:
A SPECIAL DEMONSTRATION/TEACHER TRAINING PROJECT

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Abstract

The External Diploma Project began as a special demonstration project funded by a grant from the Indiana Department of Public Instruction, Division of Adult and Community Education under Section 309 of the Adult Education Act. The project's initial goal was to offer adults who could not attend scheduled programs the opportunity to take courses toward high school completion. The courses combine, on direct dial access equipment, 32 telephone tape lessons, one study guide per course, face-to-face help sessions, and an independent study project. Some assessment was also developed within the bounds of the project in order to grant high school credits for what adults know and can do. Ninety students were assessed during the funding time period, with 77 credits granted in the final stage of the project. The courses were used to a certain extent in branch libraries, due to being predominantly self-contained. Students who take the courses should read at least at the ninth grade level, since much of the program is independent study. The project is competency-based with mastery determined by a monitored final test. Students ranged in age from 17 to 93 years, all living within the metropolitan area of Indianapolis. Twenty-six core courses were developed plus a GED preparation course. The program was developed by grant monies but has been adopted into a regular funding system by Indianapolis Public Schools.

Introduction

The purpose of the External Diploma Project (EDP) has been to offer adults who could not attend regular adult education classes an alternative way of obtaining credits toward high school completion. Unlike correspondence courses and other home study programs, the bulk of instruction has been conducted via cassette tape recordings played over the telephone.

Initial project goals included the development of 20 courses of study using a 32 lesson per course audio cassette framework. These taped courses then became part of a telephone call-in program utilizing dial access equipment so that students could listen to a taped lesson and follow along in a workbook provided for each course. Students received two taped lessons a week and followed a program schedule that listed the name of the course, telephone number to call, and the days of the week the tape was available. During those days, the tape could be called at any time. Contact time with the instructors was also planned for each student, and upon finishing the course a student completed a total of 60 hours of instructional time.

The single objective, simply stated, allows adults to earn credit toward a high school diploma after completion of course work and successfully passing a state approved final examination.

The need identified before the proposal was written was that there are many adults who need and want a high school diploma, but due to circumstances beyond their control (infirmities, child care, transitory) they cannot attend regular day or evening adult classes.

Since inception of the project, however, it has been found that there are other needs that can be addressed through a program of this scope. Some adults can get out of the house, but wish to stay in their neighborhoods. Other adults have skills, knowledge, and competencies that they have accumulated through their lives, and deserve credit in particular areas -- if they meet minimum skill or knowledge requirements. These issues will be discussed later.

Design

Audience

As of June 1978, 432 students have participated in the EDP courses. This includes 79

males and 353 females living within the city limits of Indianapolis. These students range in age from 17 to 93 years, with a mean age of 28.5 years. Of these adults, 60% have been employed and have taken an average course load per person of 2.5 classes. The overall completion rate has been 42% for this high risk target population.

Procedures

This section will seek to explain, in chronological sequence, the design of the project from receipt of the initial funding, through the program's expansion within the last year. Indicative of the program's progress, the adjustments, frustrations, and successes will become apparent.

Although the grant ran for three years (two of which were renewal periods), the project was actually completed in less time. The grant began technically in October of 1975, but the money was not received until February, 1976. Thus, the start to finish time was right at 28 months. The total 28 month grant monies received was $210,732.00, total monies expended was $190,012.28.

After the project was approved for funding, it was necessary to hire, as quickly as possible, the personnel that would be necessary to carry on the administrative and clerical functions of the program. A project coordinator was hired, whose responsibility it would be to supervise the collaborating functions of EDP. Secondly, a secretary was hired to support the coordinator; a media clerk assumed the job of duplicating tapes, and a telephone operator was hired to field all EDP calls and take care of 'plugging in' the student's tape requests. Throughout the project it was necessary to hire part-time typists in order to type the massive amounts of pages necessary for scripts and workbooks. Licensed teachers were then hired to develop the courses. Instructors were selected from the Day Adult High School (DAHS) faculty when possible. This provided teachers with experience in the teaching of adults and it was easier to work with and coordinate personnel already on the premises.

As the planning stages of the project got under way, it was necessary to have several long staff meetings in order to acclimate the instructors to the type of program that needed to be developed. The mastery teaching program, developed at Indiana University, was given to EDP instructors in order to help them with clear goal and objective writing. Each instructor felt that they wanted to personalize their courses so that their own personalities would be apparent in the course make-up. Most of the instructors wished to make their own tapes with their own voices on the tape and it took some time to convince them that in order for the tapes to be of good quality over the telephone lines the original recordings would have to be made on quality equipment, in a sound studio, on a reel-to-reel format, and then duplicated on cassette tapes for playback in the telecassette machines. Few of the instructors had the professional voices necessary to satisfy taped instruction quality requirements, or the time commitment it would take to record the tapes, so it became apparent that it would be necessary to hire professional radio voices for the project.

Thus, it became necessary to quickly find a talented production professional who was familiar with all aspects of audio recording, and also had the personal contacts necessary to find professionals to read the scripts. Not enough can be said about the indispensability of the audio technician. That person handled all of the technical aspects of the taping, in addition to hiring voice personnel, and training the instructors to write their scripts in a format acceptable for recording purposes. The IPS radio station, WIAN, assisted the project by making available as much studio time as they possibly could spare for recording, and by assisting with technical problems. When it became apparent that the project was going to involve too much studio time for WIAN to handle, a request was made for a transfer of line item funds in order to facilitate the construction of a simple sound studio close to the main DAHS building. Indianapolis Public Schools' buildings and grounds contractors helped design and constructed the studio, and then installed the equipment after it arrived.

The hiring task complete, it was still necessary to work with the instructors on the new concept of writing behavioral objectives for the course of study (although the mastery teaching instruction assisted with this); developing quality, valid final examinations for the courses, and still prepare the scripts for the taped lessons and write the workbooks. Hence, the instructors, with no predetermined guidelines, were working on four major cycles at the same time -- with each as important and immediate as the next.

Because the instructors had no experience in writing scripts that were to be verbalized, it was necessary to edit every script before it was sent to the typist for production preparation. Further, because in the beginning it was thought to be a distinct advantage to having the courses personalized, there was no standard format, only general guidelines for the way in which the workbooks would be written and set up, nor how the worksheets would be designed. Initially, this did not seem to be a

problem. It was only after the clerical staff began to type the workbooks that it was realized that a student who took three different courses would have to readjust themselves to three different types of format and three sets of terminology. The last six courses that were designed did not have this problem because a format and vocabulary was devised and given to the instructors from which to work. At least three of the teachers who developed the last six courses, also developed courses within the first 20, and indicated their pleasure at being able to follow distinctive guidelines. This consistence will also lend some overlap for the student who takes more than one course.

It became increasingly obvious that the expertise of more than one professional would be necessary to administer the different components of the program. No one coordinator can handle a program of EDP's magnitude by her/himself, while in the developmental stages. Thus, both the director of DAHS and the coordinator of media services spent a great percentage of their time for the duration of the project helping to administer different parts of the project: For example, while the director was prime mover, overseer and supervisor of all activities, the media coordinator took on the responsibility of coordinating all of the equipment and instructional materials components, while the original coordinator dealt with student enrollment, and general teacher and clerical coordinating. So, for a program as extensive as EDP, it was initially shortsighted to surmise that one coordinator could manage the entire program and all of its components.

Recruiting students was the next step in the project. Several means were employed, including television and radio public service announcements, the newspaper, and many guest appearances on TV talk shows such as Indy Today and Jim Gerard shows. (See Appendix A for an example of copy used in a recruitment brochure.) Because it was necessary to determine the extent of student understanding of the project and, of course, the success or need of revision for both tapes and workbooks, the program accepted only students who could read at a ninth grade level. As the project progressed, it was necessary to keep this 'unofficial' guideline because the success of a student seemed to have direct correlation with her/his ability to read well. The higher the reading level, the more likely it was for a student to remain with the program and complete a course.

EDP was set up so that each student would complete 60 hours of instruction. This was broken down into: Orientation (4 hrs.); first teacher-student help session (4 hrs.); second teacher-student help session (4 hrs.); final testing program (4 hrs.); independent study project (16 hrs.), taped lessons (16 hrs.), and teleconferencing and individual lesson preparation (12 hrs.). The student's performance in the areas of the final examination, workbook assignments, and the independent study project was judged in reporting a final grade. Students and instructors agree at the outset of the course whether a student will receive a grade or a pass/fail indication.

As of June, 1978, 432 students have been enrolled in EDP and have taken a total of 1,021 courses. Currently, EDP offers 26 courses plus GED preparation. There have been 22,376 calls made through the telephone equipment. WIAN has broadcast 5,440 hours of the taped lessons over the two-year period. After taking one or more EDP courses, 60 students have graduated from high school.

A promising off-shoot of the program has been extending the EDP courses into local library branches. Because the courses are set up on a type of independent study format, students are able to take any one or more of the courses at the libraries where a licensed teacher supervises the student's progress. The students' hours spent 'in class' are kept by the supervising teacher, and the student receives a pass or fail grade after taking the final examination that complements the course.

There are, of course, some drawbacks to this process, since the EDP courses are set up for student-teacher contact time, assignments that are to be sent to the teachers, and instructions to do certain assignments that cannot be handled at the library branches. Perhaps, in the future, it will be worthwhile to seek financial assistance to make this branch of the program less dependent upon the actual EDP courses by deletion and minimal revision.

Results

The process of developing this innovative project has been an educational experience for all of the personnel involved. Although different functions of the program became fragmented into three divisions, each of the coordinating staff members will, upon request, make their expertise available to other adult educators in the state. It would have been of inestimable help to have been able to enlist the aid of individuals who had assisted in the development of a similar program, but at the time that EDP was proposed, there were few people in the country who had experience with this type of program.

The audio technology learned by the coordinators has been invaluable, although the

vast amount of typing time required and the coordination of the printed materials was underestimated by the planners, however, everything was completed on time. It has also become apparent that the workbooks and taped lessons demand consistent updating, a process that has not yet been considered because of its expense and time allocation. The worksheets included approximately 2,600 pages. The total number of script pages for audio recording was 3,456. Converting the scripts to printed materials accounted for another 3,456 pages.

A total of 107 students studied 321 courses at the library satellite programs, and 17 of these adults completed their credits for a high school diploma. The software developed through the EDP has also been used as supplementary and make-up resources and to provide an on-target, single lesson for a substitute teacher.

The assessment packages developed through this grant provided adults the opportunity to receive credit for what they know or can do. This assessment seemed to come about as a natural part of the outreach program, because along with the behavioral objectives of each course the staff was able to see satisfaction of many of the objectives by students actually performing the skill required without additional instruction. Instructors who were interested volunteered their time to develop assessments in their particular areas of expertise. Ninety students were assessed and 77 credits were verified by various means of assessment (see Appendix B for a list of assessments currently on file at DAHS).

The project has been successful in its main goal of making high school credit courses available to every adult who desires a high school diploma. The program also allows credit students to pick up specific segments of instruction which they may have missed during regular classes.

The energy generated within the EDP staff while working on this innovative project was beyond the planner's expectations. This method of individualized instruction spilled over into regular classes.

Conclusions/Recommendations

It is believed that the cassette tapes, scripts and worksheets can be used in other programs throughout the state for high school completion. This would be especially valuable in the learning laboratory structure. The cost per course is $50, which includes 16 cassettes (32 lessons) and one workbook. Extra workbooks are $5 each.

It is further recommended that assessment needs be further studied and developed. The assessment packages and tests are not available for open dissemination. It is recommended that any system undertaking granting credit for what one knows or can do should first accept assessment on a philosophical basis. Each system must decide, with the aid of its own resources, the measurable objectives for each course and the criteria from which a credit should be granted. It is recommended that assessment packages must be developed as a means of verifying the mastery of a skill or knowledge in measurable terms. Any effort toward assessment, however, must take into consideration full staffing and funding since the development and administration will encompass several full-time positions.

The External Diploma Project, in the opinion of the developers, was a noteworthy success. The program was developed by grant monies but has been adopted into a regular funding system by Indianapolis Public Schools. The program will continue to make a high school diploma attainable and available to non and semi-mobile adults who live in the Indianapolis metropolitan area. Finally, thanks to the availability of travel money for dissemination of information about the project, it is widely known and recognized around the country.

Appendix A

Example Copy for Recruitment Brochure

ADULTS ONLY!!!

You can learn at home by phone! Do you have a transportation problem? An illness that will not allow you to attend high school every day? Do you feel uncomfortable leaving the security of your neighborhood? Are your working hours irregular? Are you a mother who has children at home and cannot afford or find a sitter?

GENERAL INFORMATION

Day Adult is offering the External Diploma Project (EDP), which enables adults who cannot attend day or evening in-school classes to work toward a high school diploma.

EDP is unlike correspondence courses and other home study programs because the bulk of the instruction is by cassette tape recordings played over the telephone. A student receives a total of 60 semester hours of a combination of taped instruction, independent study, orientation, and help and coordination meetings with a final testing session at the end of the course. Students MUST attend the orientation, help sessions and the final test session at the Day Adult School. These are the only times the student has to be physically present during the semester.

The orientation portion of the semester is 4 hours and includes registration, counseling, distribution of the syllabus, books, materials, information and initial assignments. At approximately the 6th and 12th weeks, the help and coordination meetings are held. Each session is 4 hours long, and will help bring the course into focus with counseling, group discussions and share sessions, reinforcement, personal contact and interaction, and assignment review. A 4-hour final testing session rounds out the EDP semester.

There will be a total of 16 hours or 32 lessons of taped audio instruction which the student will listen to over the telephone. The taped instruction will combine lectures, explanations, and special listening assignments. In addition to the taped instruction, 16 hours of independent study is required. May take form of special projects, visits, radio-TV programs, or individualized writing/skill building assignments. EDP instructors will carefully monitor students' progress and written assignments. If additional help is needed, the teacher will contact the student either by telephone or in person. If an entire group of students need special help or wish to communicate as a group, telephone conference calls will be arranged.

An assessment program, wherein students may be able to receive credit for skills already learned or known, is also available.

COURSES OFFERED

English 1-6
U.S. History 1-2
Basic Math 1-2
Science 1-2
Biology 1-2
World History 1-2
Government
Urban Affairs
Economics
Health
Psychology
Family Living
Consumer Education
Child Care
Child Development
Sociology
GED Preparation

GRADUATION REQUIREMENTS

In addition to the sixteen required courses listed below, sixteen elective classes are necessary for graduation from high school:

Required courses are:

English	6 credits
Math	2 credits
Science	2 credits
U.S. History	2 credits
Economic Problems	1 credit
U.S. Government	1 credit
Health & Safety	1 credit
Physical Education (exempt at 35)	1 credit

Appendix B

Assessments and Tests at DAHA

I. Business

- A. Typing 1-4
- B. Accounting 1-2
- C. Consumer Education

II. English

- A. English 1-8
- B. Spanish
- C. Latin

III. Health & Safety

- A. Health
- B. Safety Education

IV. Home Economics

- A. Clothing & Textiles 1-6
- B. Family Living
- C. Foods 1-4 (in progress)
- D. Home Management (in progress)
- E. Child Care
- F. Child Development
- G. Home Economics Crafts
- H. Home Nursing
- I. 9th Grade Home Economics

V. Industrial Arts

- A. Industrial Arts
- B. Metals
- C. Woods 1-2
- D. Drawing
- E. Electricity

VI. Math

- A. Basic Math 1-2
- B. General Math 1-2
- C. Algebra 1-2
- D. Algebra 3-4
- E. Algebra 5-6
- F. Commercial Arithmetic
- G. Calculus
- H. Geometry - Analytic
- I. Geometry - Plane
- J. Trigonometry

VII. Music - Piano 1-4

VIII. Science

- A. Science 1-2
- B. Biology 1-2
- C. Chemistry
- D. Physics

IX. Social Studies

- A. U.S. History 1-2
- B. Government
- C. Economics
- D. Urban Affairs
- E. Psychology
- F. World History 1-2
- G. Sociology
- H. Civics
- I. Modern European History

A CONCEPTUALIZATION OF THE CHANGE PROCESS AS IT APPLIES TO PROGRAMMING IN ADULT AND CONTINUING EDUCATION
Application: DAISY

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Forward

The discussion format of this paper is derived from a planning model prepared by Dr. Edgar J. Boone, Professor and Head of the Adult and Community College Education Department at North Carolina State University. This model has served as a guide for planning endeavors in the development of Durham Technical Institute's new dial access system. It is with great appreciation and admiration that I extend my gratitude to Dr. Boone for his advice and direction in this undertaking.

Introduction

The programming process is a very complex and challenging phenomenon. Thorough understanding of the processes involved in change is required if one is to be successful in institutionalizing the change. In order for the end product to be characterized as viable and effective, there are many prerequisites and subprocesses that must be systematically addressed. Proactive planning must be emphasized in order to satisfy expected societal alterations and demands. Proactive endeavors should be apparent in order to avert reactionary behavior. To be proactive is to be change-oriented. The programming concept is equated with change. With technological advancements, social movement, and diversity in societal expectations, we must attempt to meet future change in an organized and proactive societal context.

The model to be used in outlining a proposed program under development is characteristic of a systematic and organized framework for change. It is sequential in nature, and subscribes to participation and collaboration. Because of the sequential nature of the model, each step should be undertaken with analytical thoroughness before proceeding to subsequent steps. The model should be used as a blueprint for actively planning, designing, implementing, and evaluating the program under development. Because of the heuristic nature of the model ,evaluative feedback should be analyzed in order to determine the planner's action course. If the feedback is inconsistent with the intent of the planning stage, corrective or alternative measures should be executed prior to pursuance of the subsequent task. The skillful planner or change agent will incorporate an evaluative feedback component within the scope and sequence of the model.

The program to be applied to the model is currently in the developmental stages. Therefore, the application will be hypothetical to some degree. However, the hypothetical component will be in essence, projected intentions that are to be pursued in future programming endeavors. The program under analysis is the Dial Access Instructional SYstem (DAISY) at Durham Technical Institute.

I. PROGRAM PLANNING

A. The Institution and Its Renewal Processes

In order for the adult education institution to remain viable in its offerings to adult learners, it is imperative that change be a perpetual phenomenon. Programs should embrace and be reflective of societal attributes. These attributes may be interpreted as needs, demands, expectations, skills, values, attitudes, or deficiencies. Therefore, the programming process should be executed in a societal context.

1. Understanding and Commitment to the Functions of the Institution: The programming process must be executed as a cooperative and supportive institutional effort. Programs provided by the institution must exhibit commitment toward the institution's own philosophical intent or purpose of existence. Durham Technical Institute has a commitment to the provision of services to adults who are functionally illiterate. Because of this commitment, a conceptualization of a new program to provide adult basic education via a novel delivery medium was envisioned. The idea of using a dial access system for instruction de-

signed and delivered via telephone for illiterate adults, was the product of Dr. John Crumpton, President of Durham Technical Institute. This program is now known as DAISY.

Prior institutional attempts to remediate basic skill deficiencies in a lab setting on campus, have proven not to be as effective as anticipated. "Latent groups" or those members involved in prior attempts were consulted in order to examine possible reasons for program weaknesses. It was learned that motivation was lacking on the part of the learner. It was suggested that the low motivation exhibited was due to the lack of effective educational materials available, as well as a lack of proficiency in teaching the elemental skills needed by the adult, especially non-reading adults.

a. Mission/Philosophy: In order for DAISY to be an effective program, with full institutional support, it is necessary that the philosophy of the institution be incorporated in the program. In other words, DAISY should promote and complement the institution's philosophy.

Durham Technical Institute operates under the guidelines and policies set by the N.C. State Board of Education for the Community College System. The philosophy of the "open door institution" embodies a goal of providing "total education" to those individuals who are eighteen years of age, regardless of their talents. The philosophy also states that reading will be taught to those who cannot read. The intended emphasis of DAISY is to provide reading instruction beginning at a pre-reading level and extending to an eighth grade reading level. DAISY will be accessible to anyone eighteen years or older, regardless of individual talents or limitations.

A mission of the N.C. Community College System is to help the student to choose the program best for him. If a student lacks the skills needed to enter a desired program, he is redirected to a basic education program in order to remediate his deficiencies. Afterward, he should be able to enter the program desired. DAISY offers a means for the attainment of basic skills, and is considered an adult basic education (ABE) program. It is noped that students who complete the program DAISY offers, will then be prepared for general education curricula, as well as degree or diploma programs.

An additional mission of the N.C. Community College System is to "meet the needs of those who seek employment or who seek advancement in their work." It is believed that those individuals completing the instructional component of DAISY will be positively enhancing their employment and advancement potential.

b. Goals and Objectives: The objective of DAISY is to provide needed basic skills to those individuals desirous of improvement. This goal is shared by Durham Technical Institute in its quest to be an example of an open door institution. The offerings at this institution are quite versatile. DAISY is a tool for accomplishing an institutional policy of providing versatility in basic educational offerings.

c. Publics/Clientele: As stated in the philosophy of the open door institution, "The doors to the institutions in North Carolina's system of community colleges must never be closed to anyone of suitable age who can learn what they teach." The publics to be served via the community college is not to be restricted to a chosen few, but rather to those individuals who are eighteen years old or older who can learn what is taught in the institution. With this philosophical premise in mind, the publics to be served by DAISY would encompass all individuals "of age", who could benefit from a basic reading program. The program would not exclude anyone who can satisfy these foregoing criteria. The specific clientele to be served via DAISY would be Durham area adults who are considered to be functionally illiterate.

2. Knowledgeable about and Commitment to the Structure of the Institution: The change agent must exhibit initiative in becoming aware of the structure of the institution. Perhaps an initial effort would be to comprehensively review the organizational structure within the institution. This would entail close scrutiny of the organizational chart, as well as observation and familiarization of the divisions, programs, and services within the institution. The chain of command as well as the vested authorities influencing one's own performance should be observed and respected.

The change agent should be knowledgeable about the institutional services and support that may be elicited for input. The change agent should realize the potential of institutional resources: material or financial, as well as human. With a full understanding of the structure

of the institution, one is better equipped to comprehend one's own mission in relation to the institution. The change agent must understand his function within the organizational structure of the institution in order to utilize the existing potential within the institution. This requires the acquisition of knowledge about the structure inherent within the institutional setting.

a. Role Definitions: In order to fully understand the roles of those individuals in the DAISY program, it would be advisable to secure or construct documents outlining job descriptions. These job descriptions should be exemplary of commitment to the structure of the institution. The director of the program has been informed as to job responsibilities. Curriculum design, scriptwriting, editing, taping, and cataloging materials produced, are the major responsibilities of the DAISY Director. The director is also responsible for coordinating and eliciting support for the program. A Research Assistant will aid in the execution of these tasks.

Two operator-assistants will be hired when the telecassette console is installed. The console will be installed after a substantial number of reading modules are written, edited, taped, and cataloged. One operator-assistant will be a full time employee, and the second operator-assistant will be employed on a part time basis. The responsibilities of these employees will be to operate the telecassette console. They will receive calls from DAISY students and provide them access to curriculum tapes via the telephone. These employees will also be responsible for extensive record-keeping. All incoming calls will be logged in reference to the specific tapes requested. This data will be utilized for input assessment.

It is desired that two reading assessors be among the staff to be hired for DAISY. These indivuals will be responsible for diagnostic and prescriptive program components. The assessors will also collect benchmark data from each DAISY student on an intermittent basis. They will also be encouraged to exercise skill in employing motivational techniques during personal contacts with the students.

In order to adequately address the process of conveying role definitions, a job description will be written for each new DAISY employee. The employees will be thoroughly briefed as to job expectations. The personnel will undergo an orientation process as to their expected job performance and duties. Continuing staff development activities will also be an integral part of defining and redefining roles. Through these processes, it is hoped that understanding and commitment to the philosophy of the institution will be established.

b. Division of Responsibilities: Each staff member of the DAISY team will be assigned specific job responsibilities. The activities of each member of the team should complement and enhance the input of the other members. The efforts of the team should ultimately, collectively, and positively influence the overall program impact. The responsibilities should be clearly defined through narrative description, dialogue, orientation procedures, as well as continuing staff development activities.

c. Internal/External Relationships: DAISY should be cognizant of the great potential for program input to be derived from within the institution itself. The change agent must acquire and demonstrate the ability to think and act in an institutional context.

The process of social integration must take place, in terms of linking supportive divisions or subunits within the institution. Through this linkage or integration of subunits, a collaborative bond may be created. This process may be equated to the adage, "the whole is greater than the sum of its parts."

This social integration process involves the following institutional subunits or subsystems: the Office of the President, the Reading Center, Special Services to Students, Community Video Services, the Learning Resources Center, Division of Research and Planning, Word Processing, and Graphics. These institutional subsystems provide dialogue, cognitive input, program direction for planning, as well as services for program development.

The external relationships will encompass subsystems that complement and advance program directionality. The subsystems relevant to the change process, constituted by delineation of outside social systems are: the target group itself (functionally illiterate adults), local public service-oriented agencies (Social Services, Manpower, the Durham Health Department, the Chamber of Commerce, etc.). The public school systems, local institutions of higher learning, local

churches and community groups are also considered relevant social subsystems. Organizations and special interest groups such as the Coordinating Council for Senior Citizens and the Durham Committee on the Affairs of Black People have been identified as external publics to be integrated and linked to the planning process. Collaboration with these internal and external subsystems, should be actively sought.

3. Knowledgeable about and Skilled in Administrative - Organizational Processes: A proper balance between the diversified functions of all subunits contributing to the development of DAISY is imperative. The administrative function of the institution should be designed in such a manner as to enhance the responsibilities and performance of each subsystem, in order to enable each subunit to provide maximum collaborative input.

Administrative responsibility for supervision, appraisal, and continuing staff development should be clearly identified and related to the total organizational structure of the institution.

The administrative officer in charge of DAISY is DTI's Vice President of Support Services, Dr. Phail Wynn, Jr. Institutional expectations are positively and continually conveyed via this administrative officer. Dr. Wynn should be recognized as providing many creative ideas to be used by DAISY.

After additional personnel is hired, the director will assume administrative tasks, as delegated.

a. Personnel Administration: The research assistant, the telephone operator-assistants, and reading assessors will receive guidance, orientation, and appraisal from the organization/program administrators (the President, the Vice President, and the DAISY Director). The administrative component must be representative of the purpose of the institution, and the macro objective of DAISY, as stated.

b. Programming: The primary responsibility of the DAISY Director is to develop curricula to be delivered via the telecommunication system. The macro programming process delegated to the director consists of designing reading modules; sequential and representative of alternative techniques for effectively remediating and improving basic reading skills.

The programming tasks of the director embody some administrative duties, as well as coordination of internal and external relationships conducive to program development. Research and correspondence is conducted in order to learn from other dial access systems operationalized throughout the country.

c. Organizational Renewal: Change is that process in which a state of organizational renewal may be achieved. The philosophy of John Gardner, in his book Self-Renewal, is quite applicable to renewal within the organization. Change is quite often a refreshing and highly motivating phenomenon. Organizational renewal is a process of initiating and confronting needed changes for the purpose of maintaining a viable, relevant, and problem-solving educational base within the institution. The originality and progressive nature of DTI's president, Dr. Crumpton, has provided the atmosphere essential for the emergence of novel programs such as DAISY.

B. Linking the Institution to Its Publics Through Consumer/User Participation in Needs Assessment

It is of utmost importance to stress participation in planning programs. Participation is a way to avoid conflicts and unify the system. In order to elicit support from leaders, as well as obtain information regarding the needs of the target public, participation and collaboration should be stressed in the initial planning stages.

1. Definition of Publics to be Served by the Institution: The publics to be served via DAISY are all Durham area adults who are eighteen years or older, and are reading on a functionally illiterate level. The number of individuals who are in need of adult basic education, and who would hopefully benefit from DAISY, has been examined in census reports and statistical profiles. Supporting data collected in 1977 at DTI reveals that 30 percent of the 2,115 curriculum students who were administered the California Achievement Test were found to be reading at a functionally illiterate level.

2. Study, Analysis, and Mapping of Publics: In planning a new program, it is very important that the publics to be served by the program are identified correctly. The initial effort in this process would be to adequately examine the exist-

ing legislation outlining the publics to be served by the institution itself. The early research and court reports of hearings, leading to legislative acts, should be reviewed. The philosophy or mission of the institution often reveals the publics to be served. Accreditation procedures may also reveal information identifying publics.

The geographical boundaries would encompass Durham County as the area to be served via DAISY. The system will mainly serve publics dwelling in Durham County, since telephone calls would be local, and therefore toll free.

The publics to be served via DAISY are relatively diverse. The age of the publics in need of ABE programs such as DAISY range from "eighteen to eighty". The majority of these people are assumed to be members of a socio-economic grouping that is considered lower than average. The specific target group is comprised of adults in Durham County who are reading at a functionally illiterate level.

3. Identification of Leaders of Publics: The change process includes collaboration and participation. In order to more adequately assess needs of the users or target publics, the change agent must go through the process of identifying leaders. Support systems must be sought in this process. The leaders of the support systems are sources of great potential for broadening the change agent's information base. These leaders will also aid in the attainment of resources that are necessary for maximum input in the needs assessment process. DAISY will seek the counsel of internal and external subunits or subsystems.

The needs of the learner, the institution, and society are the major areas of concern. Dialogue must take place in order to adequately obtain "needs information" from the learner, the institution, and society. The needs of the learner encompass these areas of concern: felt needs of the learner, learner interests, diagnosis of skill proficiency, and basic human needs and developmental tasks. The needs of the institution involve a diagnosis of its function, structure, philosophy, and management. The needs of society may be analyzed by interfacing with civic leaders, citizen advisory councils, and other societal members.

Leaders may be identified by the following four approaches. 1) One may analyze those individuals in positions affecting community decisions. 2) The change agent may analyze leaders via reputation to affect change in the community. 3) Leaders may emerge as a result of analyzing the input influencing the decision-making process within a community. 4) Members of publics may also be identified by analysis of involvement in civic or fraternal organizations.

To establish rapport with leaders, it is crucial to exercise effective interpersonal skills.

4. Interfacing with Leaders: After the leaders of subsystems have been identified, it is of great significance that an "interface" be established. It is through this type of collaborative exchange, that areas of concern are confronted and ultimately solutions are discovered. Systemic linkage is a phenomenon sought in planning DAISY. Through interfacing, the chances for linkage to subsystems are ultimately and positively enhanced.

It is imperative that program planners exhibit characteristics such as good interpersonal skills, a trusting and open-minded attitude, as well as good communication skills. It is also quite important not to attempt to reduce the leaders' own sense of autonomy within the social system he represents.

5. Collaborating with Leaders in Needs Assessment: Citizen groups will be the source for a great deal of collaboration in regard to assessing needs. It is through collaborative efforts, that a strong and positive rapport is built. Because of this type of rapport, input may be obtained, which will ultimately widen and strengthen the cognitive framework of the change agent.

This process will transpire best with informal interfacing, which will elicit "support potential" for needs assessment.

II. PROGRAM DESIGN AND IMPLEMENTATION

A. Designing the Program

At this point in the progression of the model, the change agent should have exercised a great deal of evaluative analysis efforts. If all prerequisite subprocesses have been successfully attempted, the change agent may begin the design and implementation subprocesses, which is in actuality the "blueprint".

1. Specification and Statement of Macro Needs: This stage of the planning process

should be exemplary of elicitation of input and support from the planning committee formulated. If there has been inconsistencies in earlier stages, the statement of needs will be jeopardized.

Internal and external relationships and subsystems identified for input should be consulted for need analysis. The needs of the learner, the institution, and society should be reflected in the macro needs.

DAISY should attempt to determine the perceived needs of the target group. The publics to be served are functionally illiterate adults. One may assume that in order to more effectively reach the target group, it is important that publics perceive their needs of receiving instruction in literacy education. Therefore, the participants in DAISY should possess a felt need to participate in the DAISY program.

Another macro need would be to coordinate and design institutional support services that would enhance the chances for program success. An example would be the collaboration of counseling in Special Services to Students and the diagnostic component of DAISY.

Society has the need to have members who are productive and exercise civic responsibility. Through DAISY, it is hoped that non-reading adults will assume the skills needed for career advancement and increased job efficiency. This would ultimately benefit the student, as well as society at large.

2. Translation of Needs into Macro Objectives: In order to satisfy the macro needs of improved "standards" for the learner, the institution, and society, it is important to translate the macro needs into objectives.

Knowledge of the learner, in this case a functional illiterate, will demand the macro objective of raising the learner's competencies from a minimum standard of basic skill attainment to an eighth grade level of performance.

Basic skill attainment is becoming more essential in daily living. This is evidenced by the standards required for job applicants and admissions standards of institutions of higher learning. Therefore, the learner in need of ABE, should be taught basic skills that will enable him to be a contributory member of the society in which he is expected to function.

In order to satisfy these needs, we should also incorporate into our objectives, the needs for consultation and input from experts and subject specialists. Research available in reading literacy should be continually reviewed and analyzed for potential program effectiveness.

In reference to the cognitive domain, the macro objectives should progress in such a way as to go from simple recall to interpretation exercises in the DAISY reading continuum. The affective domain should be a source for study in the incorporation of attitudes, values, and beliefs of the learner in the achievement of program objectives. The physical, social, and psychological needs and behaviors of the learner should be reflected in the objectives.

3. Definition of Macro Learning Strategies and Methods: Learning strategies or experiences should be designed in order to reinforce learning and enhance the possibilities for objective attainment. These strategies should embody three criteria set by Ralph Tyler in his book, Basic Principles of Curriculum and Instruction (Rev. Ed. 1963).

The first criteria is continuity. The learning experiences must be planned in such a way as to reiterate or repeat what is to be learned. This criteria will be satisfied via DAISY, by the continual reinforcement of skills introduced and subsequently followed up in a continuing manner throughout the reading modules.

The attribute of sequence will be evidenced by the flow of reading skills taken from a continuum and incorporated in the activities to be done by the learners. The crux of this procedure is to build upon previous learning.

Integration of learning experiences will be sought by the tying together of all learning experiences in producing an ultimate self-directing reader.

The scope of the learning experiences must attempt to embody the macro objectives of the program which should increase the basic competencies of the learner, institutionalize support services internally, and enhance the individual's potential for positively contributing to the society in which he is a member.

4. Specification of Learning Resources: With the careful achievement of earlier stages of planning and involvement of the change agent with relevant subsystems, resources should be identified. Identification of resources will best be accomplished by collaboration and interfacing with leaders. The resources to be used for DAISY are internal as well as external. The DAISY staff and administrative supervisors are the primary internal resources. Other resources involved are faculty members within various institutional divisions.

External resources include directors of other dial access systems, leaders within the community who represent various institutions, organizations, agencies, and special interest groups.

Interfacing is perhaps the best medium for eliciting aid from resources. Interfacing will allow for more efficient use of available resources.

5. Description of General Plan for Measuring Learner Outcomes and Assessing Learning Activities: In order to plan activities that will aid in the attainment of objectives, it is necessary to determine where the learner is, and where the learner ought to be. This philosophical premise may be used in determining the extent of learner outcome. This may be measured by the use of tests. DAISY will attempt to collect pre-assessment information via standardized tests, as well as subjective observations of performance indicators. Benchmark data will be accrued after each reading modular segment. Each segment capitalizes on specific reading competencies. This benchmark data will be collected and used in two ways: determining the progress of the student in order to obtain data for prescribing needed modular components, and secondly to provide input for programming efforts best designed for teaching basic competencies.

Reading assessors will also be involved in determining attitudes, produced or achieved via program activities.

B. Implementing the Program Through The Development of Plans of Work and Effective Action Strategies: The input for designing the program at DTI should come from two general sources. 1) The needs generated by collaboration of leaders. 2) Expectations of the change agents in planning, designing, and evaluating the program. DAISY's development will be projected in a long range master plan. This master plan will include the designing of activities, plans of work, and evaluative procedures for DAISY.

1. Developing Plans of Work: In developing plans of work, it is important that DAISY build a needs hierarchy with a parallel hierarchy of objectives for satisfying each of the need levels. The parallel for the objectives hierarchy would be a hierarchy outlining learning experiences that may be equated to the objective levels.

The first plan of work for DAISY would include the macro need of teaching pre-reading skills to non-reading adults. The micro needs within this macro need would be to present materials arranged in a hierarchy from simple to more complex. The lowest level skill would be left-to-right progression, leading in an ascending order to developing listening skills. For each of these micro needs, macro objectives will explain who the learner is, the behavioral change to be made, and the subject matter or content to be learned. These macro objectives will then be translated into micro objectives explaining the nature of the modular segment for objective attainment. These micro objectives will then be translated into individualized learning experiences or activity modules. The taped curriculum lessons will be accompanied by these micro learning exercises that will be designed with basic learning theories in mind.

As the plans of work are developed, altered, and tested, the learner will be expected to come into a lab setting at DTI in order to undergo periodic assessment of micro level/learner objectives. Tests will be administered in order to obtain benchmark data. Plans of work for future programming will be based upon the assessment of learner competencies on earlier modular segments. Reading assessors will also administer an attitude inventory in order to assess the learner's values of his growth via DAISY. Through this assessment procedure, it is hoped that the learner will begin to perceive or analyze needs that were once nonperceived. Therefore, during program evaluation it is hoped that many learner needs considered to be analyzed needs by the change agent will indeed become felt needs of the learner.

2. Developing and Implementing Strategies and Techniques for Marketing the Program: This subprocess involves the utilization of strategies to create awareness of the idea. These strategies will

consist of presentations to target groups, demonstrations of the operational functions of DAISY, the relaying of information via the telecommunication console system itself, and the implications of a successful laboratory function. The techniques will also encompass radio, television, and newspaper coverage of the idea. Use of the news media will be quite advantageous. Collaborative efforts of the DAISY staff and Social Services may result in home visits made to those individuals identified as being among the target group.

3. Developing and Following Through on Plans to Train Leader - Learner Resources: This subprocess involves staff development activities discussed earlier in this paper. The DAISY Director will be involved in the training of DAISY staff. There will be efforts to train DAISY Operator - Assistants in the access function of the telecassette console, as well as training in data gathering and to some extent, data analysis.

The reading assessors will require an extensive staff development training program. The use of motivational techniques should be explored in the training sessions. The assessors will also be trained as leader - learner resources in the basic skill areas featured in the curriculum modules. Training in the assessment procedures to be adopted for DAISY will also be incorporated in the training and orientation sessions to be held for the reading assessors.

DAISY also plans to orient leaders of DTI's tutorial program as to the objectives, learning experiences, assessment component, and plans of work to be used in the program. It is hoped that the tutorial leaders will familiarize student tutors with the basic scope and purpose of DAISY in order to make these tutors accessible to DAISY program participants.

DAISY plans to approach local area churches in order to form temporary coalitions to help in planning for program efforts, as well as elicit volunteer aid in tutoring DAISY students.

4. Monitoring the Teaching-Learning Transactional Process and the Overall Program: As DAISY is implemented, it may become apparent through monitoring the teaching-learning process that changes are needed in the facilitative role. Alterations in programming format, alterations in prescribed learning experiences, or assessment procedures may need to be made. It would be a mistake to implement the program without a proactive and open-minded attitude for analyzing program deficiencies.

Because of the uniqueness of DAISY, there is no known or viable model to emulate. Therefore, to some extent, our progress is often the result of trial and error. Teaching via telephone is a concept eliciting skepticism by many educators. DAISY realizes there are some inherent limitations in this delivery technique. However, through patience, receptivity to change and program alterations, and awareness of the inevitability of errors, we are committed to do what we can to accept the challenge of a novel instructional potential.

III. PROGRAM EVALUATION AND ACCOUNTABILITY

A. Determining and Measuring Program Outputs: The outputs may be equated to the "program product". The program's macro objective is to produce confident and self-directing adult readers. DAISY will assess it's macro goal via analysis of acquired competencies of the DAISY students. Achievement will be based on pre-assessment and post-assessment data. The program outputs will be judged according to audience achievement, receptivity to participate, and learner opinion. The outputs will be determined by analysis of objective data. Subjective judgment will also be considered.

B. Assessing Program Inputs: Evaluating program inputs may be equated to the "program process". The processes involved in assessing achievement of DAISY participants should be continually evaluated. scriptwriting is a macro process involved in the programming for DAISY. Benchmark data will be accrued from the administering of tests. This data should provide input for making alterations in scriptwriting and in designing activity modules.

Resources previously identified should also be continually consulted for input. This input should be evaluated and considered by the DAISY staff and target group as to its relevance and applicability. Other directors of dial access systems should be asked to give input as to audience receptivity to programs, as well as the means for diffusing the idea. This advice should be carefully analyzed for its relevance to DAISY.

Research findings should be a source

for programming. Research data is an excellent source for curriculum/content input. The research should be assessed as to validity, reliability, and applicability.

C. Using Evaluation Findings for Program Revisions, Organizational Renewal and Accountability to Publics, Funding Sources, and to the Profession: Data collected by reading assessors as to student achievement would indicate whether program revisions are needed. Benchmark data should be collected periodically in order to show student gain or loss. It is very important that we can show student gain in order to justify spending, and to obtain more funds for expanding the program. If we do not evidence growth in student competencies, our potential for financial assistance will be seriously jeopardized, and program revisions will be imminent. The DAISY staff is willing to revise the program in the way that best helps the student to become a functionally literate member of society. If we can illustrate growth via DAISY, we can then envision achieving our macro objective, and thus be accountable to our publics.

If DAISY proves to be successful, we feel confident that the program will be a very viable source of organizational renewal. Our program may also instigate or influence further efforts to revitalize adult basic education.

In order to reveal success in teaching students to read via DAISY, we must: 1) show data revealing student gain, 2) be accessible to other professionals and the media in demonstrating the efficiency of our own model operation at DTI, and 3) show the cost/quality relationship of our delivery technique.

IV. CONCLUSION

Those persons involved in the evolution of DAISY are aware of potential problems and limitations that may be encountered. However, the fact that the idea may be difficult to "sell", should not in any way detract from its great potential for helping adults learn to read. Adult educators have experienced past challenges and ideas that have ultimately proven to be exciting, revitalizing, and successful in the enrichment of learning opportunities. With any change, there is an element of risk. Risk is the component which provides the challenge that makes any endeavor more interesting. There is a great deal of determination on the part of the professionals involved in this program. This determination does not emulate from blind single-mindedness. The attributes of this collaborative goal embellish the need to recognize mistakes, learn from these mistakes, and proceed with new knowledge in making program alterations. DAISY has great potential. We are hopeful that it will indeed blossom, grow, and give beauty and joy to eager adult learners!

Dial Access Instructional SYstem

Original Design: Susan H. Payne
Graphical Reproduction: Randolph F. Bass

Illustration for DAISY

DIAL ACCESS - COST VS. "WHERE" AND "HOW"

S. Ben Seegers
Director - POLLY System
Greenville Technical College
Greenville, South Carolina

Dial Access may well be the oil well for education but it may also be a dry hole. The trick is knowing where to sink the well and the technology to sink it. The purpose of this paper is to present some thoughts on the "where" and "how."

"WHERE" is simple to answer. On the other end of your phone line. Dial Access can break the brick and mortar barrier and take the curriculum to the student. The student can be in any location and yet in school at the same time. By this media the campus is unlimited in range and is not tied to a single location budget. Offices, homes, churches, hospitals, and other similar locations become classrooms. Where a phone can be installed the campus has an extension center.

The "HOW" technology does require some thinking. The mechanical "how" is our first concern. First, costs must be controlled. To do this, equipment design must be as trouble free as possible. There are many suppliers of hardware and the taking of bids to get the low bid may well turn out to be the high bid. Unless the budget will allow full time engineering; equipment with proven records of long term, simple service by the laymen must be utilized. Before purchasing, the equipment to be used should be in proven operation elsewhere. A true bid should include, as information, cost records of other installation use for a year. The cost of service can easily affect the savings of initial cost.

Before installation of any audio tape equipment, the system location should be examined. Audio tape will cause problems where heat and humidity are not controlled. The location for the set up should be in an area where the building heating and air conditioning can be set for consistancy. Tape cassettes will vary in efficiency where the temperature and humidity changes.

One of the greatest problems will be heat. The design of the equipment racks will be of importance. They may be so constructed as to allow the building air conditioning to carry off the radiated heat. In the average installation, the institution may well save the cost of commercial racks and fans by constructing their own furniture in such a manner as to allow heat to dissipate in the building air condition system. In the specific case of Greenville Technical College, the furniture was constructed by the campus maintenance group at a cost of less than one hundred dollars. The purchase price of metal racks and fans for the same job would have been in excess of fifteen hundred dollars. Trapped heat of only a few degrees can cause costly equipment failure and tape cassette failure.

Another aspect of the installation should be the telephone company's equipment placement. Many times the user will want this equipment hidden. The beauty of the overall installation may be gained by this but the distance involved can cause costly service problems. The interface of play back equipment and phone company equipment should be at minimum distance. Again, at Greenville Technical College the interface wiring is about four feet. The phone company equipment is placed on the wall and only enough room for service engineering allowed to the back of the play back equipment.

The coupling units (RDL's) are numbered one through sixteen. Each connector cable is numbered with the same number of each end, as are the play back units. This saves service time in identifying each end of the cable bundle.

Each unit is separated by air space on sides and top to allow heat dissipation. By leaving the separate units to stand alone circulation of air requires no special fans.

Separate power sources were also provided and numbered with same number as the couplers and cables so that service people follow the line number through the equipment. In so doing, the cost of service is reduced since less search time for cables and connectors is less.

In the installation at Greenville, eight lines were installed on a rotary system. This allows our phone number to be advertised for the manual calls, yet the system can take up to eight calls at once. The remaining eight at Greenville were not placed on the rotary. These are direct dial access for the most popular topics. Each of the automatic lines are open seven days per week, 24 hours each day. This results in a saving as the phone

company charges would include a charge for each line tied into the automatic line advance rotary system.

Placement of the phone answering hand set should be to the left of the operator. Since most operators are right handed, the phone cord is not in the way of operator activities. The use of an operator head set has been found to be more of a problem than the hand held receiver due to the cord causing interferences.

Placement of the play back equipment should be within easy reach of the operator. If more than five or six lines are used the equipment should be "double decked" with air space between. The switching mechanism should be to the operator's right hand. This allows fewer mistakes in call responses.

Another false saving would be to purchase only one play back unit for each line to be answered. The machines should receive cleaning and lubrication at specified times. The purchase of one or two spares will allow service at regular schedule rather than overtime or crisis schedule. In addition to heat, dust is a major cause of failure. One of the reasons for this is that dust acts as a barrier to heat dissipation. Regular dusting of the equipment is essential. Then a regular schedule of preventative maintenance can be operational using the spare machine.

One way to save in the long run would be to do your own production of taped messages. A full recording room in the dial access area is then recommended. An extra phone line into this facility will allow sending or receiving information to be placed on the message cassettes. In addition to this use the recording facility can serve many purposes. At Greenville for instance, all public relations audio media is produced for radio stations. The recording facility must be of broadcast quality but this type of equipment usually gives longer use and therefore long run savings. In addition, all "in-house" audio instructionals are produced here. This gives a cost reduction to each area requiring audio production. To reduce cost a single purpose installation will prove to be of no value. In addition to high quality play back equipment, high quality production facilities must also be available. This in itself can provide student employment as well as student instruction and training. All of this in addition to the original purpose to provide media responses to the phone requests.

In summary: A dial access system must be a multi-purpose system. It provides employment, training and instruction within the institution and answers requests for information from the outside. All of this must be done at a minimum of cost. Complete records must be kept on all equipment use and service to determine costs.

The "how" of administration is a point of concern. If the dial access system is to be multi-purpose, there must be someone at least on a speaking basis with broadcast equipment. One big reason why much "P. R." received by the broadcast companies goes unused is time and cost to produce it. This is why the finished product gets "air'ed." To produce free public relations air time material, a broadcaster must pay an employee and use expensive equipment. When well produced media is received that is available for broadcast at once, it gets used. Part of the cost of the dial access program can now be shifted to a "P. R." budget. Otherwise, a double cost is incurred.

Even in the largest schools a consolidated media center approach is wise. One approach is to center around the Library. A building that contains only books is too expensive. A full media concept would use the Library as a center for requests for audio visual production and for production of all art, printing and photography work as well. Properly designed, all of these services compliment each other and are interdependent. Cost reduction is immediately apparent when travel and communication time is reduced.

Of course, one cannot consolidate to the point of confusion. Each unit should have its own basic freedom of operation but the fact of interdependence is a cost control factor. The dial access system is simply one part in the total media package. For the small institution the complexity will not be great. For the large one, however, the situation may be quite involved. The biggest problem here is arriving at a point of interaction without creating an empire. Empires are seldom flexible or cost efficient.

One of the most efficient things a school can do to cut cost is to reduce its campus. To do this and still serve people generates the need for the dial access. To produce media of high quality the institution should construct its administrative staff with both educational and production expertise. Dial access is not a single activity but rather a blend of the academic, finance, service, and public relations functions of the institution. To

achieve best results a purposeful and planned activity must be established. The policy of total quality output will affect the cost.

WHAT IS POLLY?

The Greenville Technical College POLLY System is an information center of tape-recorded messages, averaging 3 to 5 minutes in length, whose purpose is to give you free information on Greenville TEC and the Greenville community.

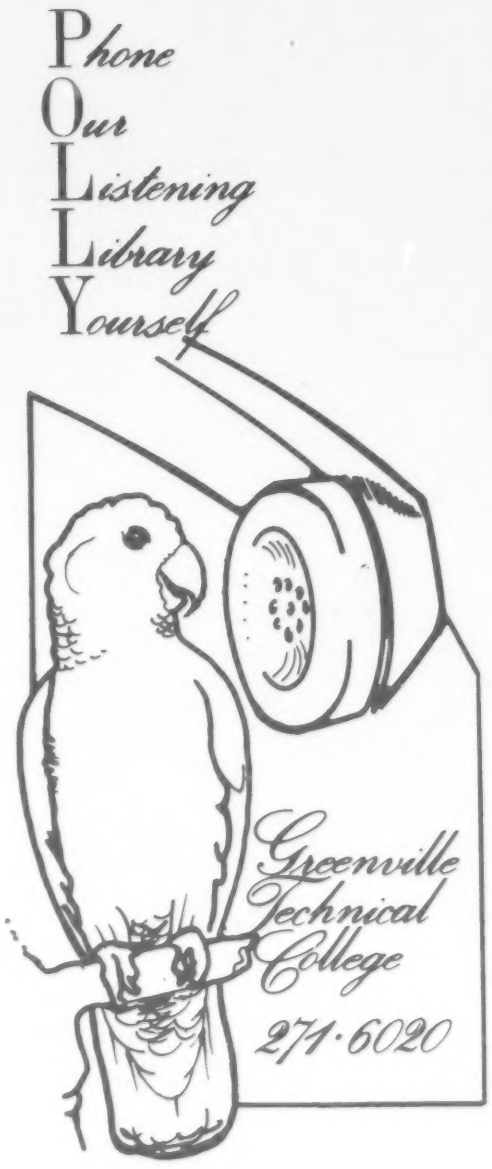
HOW TO USE POLLY

1. Select a tape number from the list.
2. Dial the POLLY number, 271-6020, Monday-Thursday, 9 a.m. to 9 p.m., and Friday, 9 a.m. to 5 p.m.; or dial one of the automatic numbers 24 hours a day.
3. Tell the operator the number of the tape you wish to hear.
4. Listen to the tape.
5. To hear the same tape again or another tape, hang up and call again.

SORRY! NO COLLECT CALLS!

GREENVILLE TECHNICAL COLLEGE
P.O. Box 5616, Station B
Greenville, SC 29606

78-6



Brochure for POLLY

SOME OF THE POLLY TAPES

MENTAL HEALTH, ALCOHOLISM, DRUGS

B-1 Signs of Emotional Disturbance
B-11 How to Deal with Your Tensions
B-29 How to Get Along with People
B-31 Symptoms of Emotional Illness that Need Profes[illegible]ional Help - Part I
B-32 How to Receive Therapy for Emotional Illness in Greenville County Mental Health Centers - Part II
B-35 Is Alcoholism Your Problem?
B-65 Bureau of Narcotics
B-66 Traffic in Dangerous Drugs
B-67 The Drug Abuser
B-68 Drug Abuse
B-69 Preventive Education
B-70 Narcotic Drugs
B-71 Marijuana
B-72 Drug Stimulants
B-73 Drug Depressants
B-74 Drug Hallucinogens
B-75 Drug Rehabilitation
B-76 Symptoms of Drug Abuse
B-147 Family Counseling Services
C-158 Transcendental Meditation

FOR THE CONSUMER

B-3 S.C. Auto Insurance Rating Plan
B-5 The Value of One Vote
B-6 Ten Common Mistakes in Investing
B-7 Common Sense for Successful Investing
B-12 Computing Interest-360 Day Basis
B-15 New Vinyl Floors in Six Easy Steps
B-16 Four Killers and Your Car
B-17 Buying Your First Car
B-18 Neglected Tires
B-19 Are You a Good Driver?
B-20 Avoiding Auto Accidents
B-21 Questions Drivers Can't Answer
B-22 Traffic Laws the Courts Did Not Make
B-23 Who Is at Fault?
B-25 Painting Secrets from the Pros
B-64 How to Water House Plants
B-107 Baby Sitter's Guide
C-1 How to Recognize Counterfeit Money
C-2 S.C. Rules for Public Officials and State Employees
C-33 Break and Broke in Ladder Buying
C-63 Nursing Home Care for the Elderly
C-64 Retirement Housing for Older Adults
C-68 Fix Those Sagging Floors!
C-69 CB Emergency Channel 9
C-70 How Do You Feel Behind the Wheel?
C-82 Automotive Rust-Its Causes and Prevention
C-104 Train Derailment Causes
C-105 Hurricanes-What To Do?
C-106 Tornadoes-What To Do?
C-141 The Hungry Ear
C-148 Credit Problems?
C-149 Stranded? Call Traveler's Aid
C-151 Teaching Red Cross Water Safety
C-152 Service to Veterans and Dependents
D-31 Divorce-Understanding the Death of a Marriage
D-32 Divorce Law in S. C.
D-65 Property Insurance for Your Home
D-66 Liability Insurance for Your Family
D-67 Cost of Insurance for Your Home
D-68 Insurance for Your Automobile
D-70 Social Aspects of Life Insurance
D-71 How Life Insurance Provides Security
D-72 How Annuities Provide Security
D-73 How Life Insurance Operates
D-74 A Life Insurance Policy Is Valuable Only If...
D-75 Keeping Household Records
D-76 Records for Safe Deposit Boxes
D-77 Keeping Tax Records
D-78 Making Household Inventory Records
D-79 Organizing a Home Filing System
D-80 Preparing a Net Worth Statement
D-81 Records-What to Discard or Keep?
D-82 Home Security at Your Door
D-86 Warranties?
D-87 Warranties and Consequential Damages
D-88 Problem Warranties
D-89 Good Warranties
D-101 Wait...Don't Call the Repairman Yet
D-102 Use & Care of Your Appliances
D-103 How the Manufacturer Can Help You
D-104 The Tools You Need for Appliance Repair
D-105 Goals and Safe Work Habits in Home Appliance Repair

BICYCLES

C-25 The Bicycle Problem
C-26 Where Do the Cyclists Ride?
C-27 Cyclist Hand & Arm Signals
C-28 Bicycle Condition for Safety
C-29 Twenty Bicycle Safety Rules
C-30 Ten Commandments for Safe Riders
C-31 Bicycle Inspection Tests
C-32 Bicycle Care

ENERGY

B-13 Decreasing Your Light Bills
B-14 Pictures That Heat
B-24 How to Split & Store Firewood
D-33 Energy Until 1990
D-34 Total Supply
D-35 Nuclear
D-36 Coal
D-37 Natural Gas
D-38 Oil
D-39 Alternatives

COOKING

D-83 Food Safety for the Family
D-84 Cooking Meat and Poultry
D-85 Storing Meat and Poultry
D-97 Testing for Doneness
D-98 Moravian Sugar Cake
D-99 Fruit Punch
D-100 Kulich
D-106 Nancy Welch's Recipe of the Day
Ask the POLLY operator for a list of the 100+ Nancy Welch recipes of the day

ENTERTAINMENT AND NOSTALGIA

A-200 Fibber McGee and Molly - Looking for His Boots
A-201 Fibber McGee and Molly - Uncle Sycamore on the Radio
A-202 Fibber McGee and Molly - Putting Up A Sailor
A-203 Phil Harris-Alice Faye Show-Jack Benny as Santa Claus
A-204 Henry Aldridge Show - Lost Bicycles
A-205 Great Gildersleeve - Jolly Boys Meeting
A-206 Great Gildersleeve - The Suggestion Box
A-207 Bob Hope and Bing Crosby-1942 W.W. II Savings Bond Show
A-208 Baby Snooks Show - Snooks Replaces a Beehive
A-209 Amos & Andy Show (1958)-31st Year of Broadcasting Show
A-210 Eddie Cantor Show - Eddie is Adopted
A-211 Eddie Cantor Show - Trying to Play Golf
A-212 Eddie Cantor Show - Radio Anniversary Show
A-213 Eddie Cantor Show - Eddie Meets a Sailor
A-241 90 Themes from Old Radio Shows - Part I
A-242 90 Themes from Old Radio Shows - Part II
A-243 Bing Crosby-Philco Show with Spike Jones
A-300 Green Hornet-Escape For Revenge
A-301 Suspense-Girl in the Powder Blue Jag
A-302 Hopalong Cassidy-The Rain Making Machine
A-303 Green Hornet-Paroled for Revenge
A-304 Green Hornet-Circumstances Alter Cases
A-305 Green Hornet-Road to Ruin
A-306 The Shadow-The Black Abbott
A-307 The Shadow-The Sandhog Murders
A-308 The Shadow-The Spider Boy
A-309 Gun Smoke-The Quarter Horse Race
A-310 Gun Smoke-Chester Becomes Marshall
A-311 Lone Ranger-Bells of Santa Maria
A-312 Lone Ranger-Ambush
A-313 Lone Ranger-A Texas Ranger Becomes the Lone Ranger
A-314 Lone Ranger-Badge of Honor
A-315 Lone Ranger-Flood Tide
A-316 Green Hornet-Murder for Sale
A-317 Green Hornet-Cat with Nine Lives
A-318 Green Hornet-The Hornet Drops a Hint
A-319 Lone Ranger-The Missing Heir
A-320 Lone Ranger-Holdup Double Cross
A-321 Suspense-The Cave of Ali Baba
A-322 Gunsmoke-The Last Gunsmoke Show on Radio (1958)
A-323 Have Gun-Will Travel
A-324 Tom Corbett-Space Cadet-Smugglers Steal Living Crystals
A-345 Shadow of Fu Manchu-The Thing in the Tree
A-346 Shadow of Fu Manchu-Death of Smith's Double
B-132 Casey Kasem's Weekly Top Ten
E-99 President Roosevelt's War Speech
E-100 General MacArthur Signing the Peace Treaty

S.C. DRIVER INFORMATION

B-40 Kinds of Licenses in S. C.
B-41 How to Get Your S.C. Driver's License
B-42 What the Examination Involves
B-43 What to do After You Get Your License
B-44 Ways Your License Can Be Taken Away
B-45 S.C. Driver Violation Point System
B-46 Annual Vehicle Inspection Requirements
B-47 Illegal Equipment on Your Vehicle
B-48 Vehicle Title, Licensing and Fees
B-49 What if You are Involved in an Accident
B-50 How NOT to get Involved in an Accident
B-51 How to Drive When Something Goes Wrong
B-52 Different Roads Mean Different Driving

For complete information on Greenville TEC programs and admission procedures, call or visit the Admissions Office, 8:30 a.m. to 8:00 p.m., Monday-Thursday, till 4:30 on Friday, and from 8:30 till 12 noon on Saturday. 242-3170.

THE DIGITAL INFORMATION ACCESS LINE (D.I.A.L.)

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History of Initiation

Encouraged by the University of Wisconsin DIAL program, plans for the Digital Information Access Line (DIAL) at the University of Minnesota began in October of 1974. An agreement was worked out with a Professor of Clinical Pharmacy to locate the DIAL system operators at the University Hospitals. This was the site of an existing DIAL program for doctors and nurses known as the Minnesota Medical Information Service (MMIS). MMIS operated with four Wollensack playback units and six telephone lines, two of which were WATS lines. It was agreed that the Campus Assistance Center (CAC) would use and rent two of the local MMIS lines for six months and pay $1500 to MMIS for operator costs for the six month DIAL demonstration project. DIAL would operate 95 hours a week. The $1500 would compensate Pharmacy for personnel time spent in answering DIAL calls between 8 am and 4:30 pm, Monday through Friday (40 hours/week). Pharmacy donated the use of "pharmacist trainees" to answer calls for the other 55 off-hours of operator time; that is, Monday through Friday, 4:30 pm to 11 pm; Saturdays and Sundays, 10 am to 8 pm.

CAC staff then began cost estimates and worked out procedures with the University's Media Resources to use studio facilities to produce the tapes. The original proposal was submitted to two Center for Educational Development programs, Small Grants and Media Production. These attempts to fund DIAL were unsuccessful, but the Center itself offered $150 to cover the rental of two phone lines for the six month period. CAC then approached the Office for Student Affairs (OSA). Eventually, OSA funded DIAL for $3,500 for the initial period. Since the original budget asked for $3,986.50, CAC made up the difference as well as absorbing the staff time for a project coordinator and an assistant.

Technical Aspects

Cost estimates, done at a time when funding was unsure, determined some of the technical aspects of the project. The Wisconsin DIAL Access had decided on cassettes, rather than 8-track or continuous belt. CAC followed suit. DIAL was designed for compatibility with MMIS equipment which used operators, rather than expensive automatic switching equipment. C-10 cassettes were purchased from an outside Minneapolis firm for 57¢ each. This length, 5 minutes of playing time on each side, accommodated most of the messages, and saved the expense of tailoring tape length to each message. There was additional savings in being able to erase an outdated message and reuse a cassette for a new message later. Cassettes were duplicated on both sides in opposite directions, enabling operators to fast forward to the end of the tape and flip the cassette over, readied for the next request. Cassettes were also inexpensive and took up the least storage space in the tape library. With a good microphone and an ordinary tape recorder, messages which might eventually need updating weekly could be easily duplicated directly onto cassettes, in an acoustically acceptable office.

The services of Media Resources were enlisted for a studio, engineer, and production of reel-to-reel masters of the messages. Production of masters allowed for editing out mistakes made by the non-professional readers used in the project. The master could also be checked for poor sound quality before duplicating messages onto the cassettes. Duplication of the first 52 messages was done by the company from whom cassettes were purchased. Later, Media Resources handled all aspects of production when it was found that their duplicating machine produced superior sound quality and the sound levels of the machine could more easily be standardized and made compatible with the MMIS tapes. This saved the DIAL operator from having to individually monitor and adjust each cassette on the playback equipment at the operator site.

In September of 1975, the DIAL equipment was physically moved to adjoin the offices of the CAC since the Pharmacy was discontinuing the MMIS and donated the equipment for our use. The DIAL presently has 4 incoming lines and 4 playback units which seems to handle the call load effectively.

Our equipment is Wollensack 3M playback units, a patch panel to patch calls between the phone lines and the playbacks, 4 couplers, a desk which houses the units and a filing cabinet for storage of tapes.

Our equipment is serviced by a local company specializing in this type of equipment. Routine maintenance consists of making sure the machines are free of lint and dust and checking to make sure plug-ins are properly connected. By checking plug-ins when things are hooked up right has saved quite a bit in maintenance fees if you don't mind crawling around on hands and knees.

DIAL Access Tapes

Currently, the University of Minnesota has approximately 250 taped messages with the possibility of adding 50 more tapes before the end of 1979. Tape topics cover such things as reading and study skills, freshman application to the University, making career decisions, the University child care center, services of the mental health clinic, how to write a resume, first signs of pregnancy, off-campus housing, gonorrhea and syphillis, women's concerns, financial aid, etc. The scripts for the tapes were solicited from departments and colleges involved. Script writing instructions were drawn up and sent out to each office interested in producing a tape. CAC staff began soliciting scripts from University offices early in November of 1974 using, as a guide, the knowledge of questions most frequently asked by students who called CAC and a broad familiarity with University services and procedures. Interested offices wrote a maximum 2 1/2 page script and sent it to the project coordinator at CAC where it was edited and sent back to the original office for final review. The finished script was then ready for production. This process provided consistency of tone, style, and length. In the selection and writing of scripts, CAC was greatly aided by the experience of the DIAL access system at the University of Wisconsin, then in its third year. Tape ranking at Wisconsin had shown three areas to be the most popular: sex/health; landlord/tenant; and drug tapes. Wherever CAC felt itself knowledgeable, tapes in those areas were written by the entire CAC staff and then edited and checked for content with appropriate University offices. The ranking of tape titles by popularity in the first six months of DIAL at Minnesota suggested that the initial CAC decision to develop scripts in this way was a workable and successful one.

Updating of DIAL tapes consists of contacting the authors or sponsors of every DIAL tape, asking them to review the content of their tape to make sure that the information is current. Special attention is given to those tapes which need weekly or quarterly updating. During the late Spring of 1978, special arrangements were made with offices generating a large number of tapes whereby they were responsible for updating, recording and furnishing the DIAL system with finished tapes. This was done due to budgetary reasons which precluded our office from handling the full amount of the cost involved with updating scripts on a yearly basis. Smaller groups of tapes would be produced on a schedule with CAC and billed accordingly.

A tally count is kept day-by-day, week-by-week, month-by-month, to insure that we have an accurate account of what tapes are being played. This also gives participating offices an opportunity to "pull" tapes that are not being used and generate others which, in all probability, will have a higher call load.

It is interesting to note the upswing of calls, especially after a long week-end, for medical tapes, specifically first signs of pregnancy, pregnancy resources, etc. During fall quarter registration, tapes pertaining to a student's interests are most frequently called and, during finals week, a large number of calls are received for such tapes as how to study for a test in a hurry and reducing test anxiety.

All in all, the sex-related tapes seem to have generated the largest percent of calls during the past year. In an informal survey, approximately 12.5% of the calls were for the sex/health related tapes which consist of only 5.5% of the number of DIAL topics.

Audience Reached

Without having a formal survey, this is a hard question to answer with any realiability, but generally the consensus is that University of Minnesota students currently enrolled are the most frequent users of DIAL.

Promotional Innovations and Publicity

Publicity is of major importance in making the DIAL system known to students and the community. It has been our experience that the use of DIAL is related directly to initial publicity efforts. In an educational institution, the need for information remains fairly steady as new students are admitted each year.

Usually, we try to have a full page ad in the Minnesota Daily, the local school newspaper, at least once a year, preferrably at the onset of Fall Quarter, with the hopes that students will cut it out and save it. Because of the prohibitive costs of full page advertising, we find we are unable to commit ourselves for more than the once a year advertising.

In addition, we print and distribute brochures yearly, listing all of our tapes. We have designed our brochure to include tapes under general headings such as Academics, University Community, Student Services, and Health Care. This enables users to look under the topic for a specific tape of interest to them. Brochures are distributed to all the dormitories, participating offices, all major information offices, heavily used buildings on campus, the area high school advising/counseling offices, the colleges and community colleges in the metropolitan area and are mailed to interested persons who call or have called for brochures.

The DIAL system availability is also published in the various college catalogs, i.e., Extension, General Information, It's Your Move, etc. This year, for the first time, a listing of the DIAL tapes was included near the front of our Student/Staff Directory.

Plans are also in the works for developing flyers which would depicit some of the tapes on one subject at various times. Distribution could be done through hand-outs on the inter-campus buses, information desks in the various student centers, etc.

Evaluation Results

Questionnaires designed to aid in the evaluation of the services of the DIAL system were mailed in July of 1975 to users and/or participants in the development of DIAL tapes. The survey asked the number of calls to DIAL; satisfaction-dissatisfaction of the caller; knowledge of CAC, OSA and the University as a result of DIAL calls; and satisfaction-dissatisfaction with the production process in making the tapes.

A summary of these questionnaires which were answered by approximately 50% of those surveyed, indicated that users most frequently called 3 times. The reasons for calling were for information, to check tape content, curiosity, to check sound quality and for a counselee. Nearly everyone was satisfied with the content, sound quality and the DIAL operator.

Two-thirds of the callers said that, as a result of the DIAL project, they were more familiar with the Campus Assistance Center, the Office for Student Affairs and the University.

Some of the callers were referred students/clients to DIAL. A counselor would refer a student for tapes on general University information, etc. The Police Department reported that referral of callers to DIAL for information saved them time and another department commented that they referred students for information because it was more understandable to students. Many respondents also indicated that students came to them for counseling or more information as a result of listening to the tapes.

To sum it up, one person said: "The use of DIAL has made a difference in the operation of our office. It provides information needed by staff as well as by students -- promptly and accurately -- which saves looking up information in bulletins, hunting for needed answers, etc. Gives a more positive impression of various agencies than does the written information."

At the end of each year, a full report of the operations of the DIAL system is compiled. It includes a tally of the call load for the entire year, as well as comments from the coordinator on the operation of the program as a whole and the anticipated direction for the coming year. Yearly tallies of our own call load are as follows:

1974-1975	8,000
1975-1976	16,201
1976-1977	14,439
1977-1978	10,715

Staffing Strategies

The DIAL system at the University of Minnesota uses college Work Study students as DIAL operators. Each quarter, four/five students are used with work schedules flexible so that each student can work a block of time without interferring with class work. Training of staff is minimal and all operators are courteous and helpful in assisting with non-DIAL related calls.

The use of college Work Study students enables our system to work within our limited budget quickly and readily. Having to pay a full time salary would mean loss of student personnel and cause a heavier work load for CAC personnel.

Cost Effectiveness of DIAL Access

We have found the cost of operating our system has been fairly constant. We were lucky in that we "inherited" some of the equipment and did not require a large capital expenditure at the onset of the program. Production costs of recording tapes and producing a brochure take up the majority of our budget along with telephone expenses. Our monthly telephone bill is approximately $118.49.

Value benefits are not measureable in financial terms since the system alleviates unnecessary calls to various offices, freeing personnel in those offices for other duties. The fact that there is a system where a student is not face-to-face with a counselor or other University personnel oftentimes makes for a

more informal relaxed attitude on the part of the student.

The mood or trend of student needs is also reflected in the use of a DIAL system by monitoring call loads.

Future Plans/Expansion of the DIAL Access System

The idea of producing our DIAL brochure, on a small scale, in Braille to be of assistance to blind students has been discussed with the Handicapped Resource Coordinator at the University of Minnesota and the possibility of getting funding and/or backing for this project is being explored. We feel that this would be a worthwhile project so that blind students and others in the community can find out various information about the University and the community by calling the one phone number.

It is hoped that, in the near future, plans can be developed which will coordinate a wider distribution of topics and usage by a larger range of people.

The Duluth campus of the University of Minnesota is setting up a small DIAL program of their own and should be in operation by late Spring of 1979.

Comments

It is a good practice to establish a working rapport with one person in a department that is responsible for developing scripts, etc. This makes the coordinator's job much easier as that person knows what is required and the deadlines that have to be met.

As an example of a student service providing support for the academic programs, the College of Liberal Arts (CLA) at the University of Minnesota developed a series of 25 tapes describing the various CLA majors. These tapes have had a good response. The expansion of and addition of this type of support for the academic area develops credibility, visibility, and support for student services on a much broader institutional basis.

A listing of the tape topics currently in use at the University of Minnesota's DIAL program follow. In parenthesis behind each tape is the number of calls that particular tape had during the 1977-1978 fiscal year.

University of Minnesota
DIAL Tapes

1001 Reading & Study Skills Centers (69)
1003 Receiving Credit for Study Abroad (23)
1004 Planning a Directed Study (29)
1005 Preparing for a Test in a Hurry (95)
1006 Reducing Test Anxiety (75)
1007 Grade Complaints (29)
1008 Martin Luther King Jr. Program (20)
1009 MLK Program in Vietnamese (29)
1011 Reading a Textbook Comprehensively (86)
1012 Tips on Notetaking (144)
1101 Freshman Application to the University (51)
1102 Transfer to the University from Other Institutions (59)
1103 Change of College Within the University (23)
1104 Readmission to the University (28)
1105 How to Remove a Hold From Your Records (19)
1106 Tuition, Penalty Charges & Refunds (36)
1110 Withdrawal from Courses in Midquarter (43)
1111 What Does My Student Service Fee Pay For? (32)
1112 How to Obtain a Transcript (18)
1113 Getting Extension Grades on Your Day School Transcript (198)
1114 Minnesota, Wisconsin & North Dakota Reciprocity (6)
1116 Determing Resident Status in Minnesota (25)
1120 Commencement Information (118)
1201 The College of Agriculture (20)
1202 Agricultural Careers & Specialization (26)
1203 Opportunities for Graduates (12)
1261 Advising Services in the College of Home Economics (15)
1262 The Interior Design Program (14)
1263 Careers in Fashion Merchandising (17)
1264 Nutrition & Dietetics Programs (29)
1265 Teaching Opportunities with a Home Economics Degree (25)
1266 The Family Relationships Program (15)
1400 University Bookstores: Locations and Hours (89)
1401 Book Refund, Resale and Other Bookstore Policies (47)
1601 Admission Standards & Procedures in College of Business Administration (55)
1701 Making Career Decisions (128)
1702 Using the Occupational Information Library (29)
1703 C.B.A. Placement (38)
1705 Home Economics Placement Office (19)
1801 University Child Care Center (127)
1802 Child Care Facilities Near the U (69)
1803 Educational Rights of Handicapped Children (14)
2100 Current Registration Information for Extension (64)
2101 Program Advising (81)
2102 Counseling (90)
2103 Independent Study Courses by Media (92)
2104 Extension Evening Classes (64)
2105 Transfer to Extension Classes: Admission to Degree Programs (60)
2106 Non-credit Reduced Tuition & $1 Sampler Lectures (21)
2107 Certificate Programs (58)
2108 Undergraduate & Graduate Degrees Through Extension (1)
2109 Earning Credit Without Attending Class (61)
2110 Continuing Education for Women (69)
2111 Independent Study Courses About Women (17)
2112 Extension Student Fall Orientation (6)

2113 Extension Classes in Neighborhood Centers (4)
2114 Financial Aid for Extension Students (71)
2115 Extension Classes Office Hours (0)
2116 Study Skills Center (0)
2117 CEE Student Board (1)
2118 CEE and Senior Citizens
2201 The Student Counseling Bureau (29)
2202 Counseling Bureau Groups (22)
2203 If You've Ever Thought of Suicide (46)
2205 OASIS (10)
2210 Services of the Mental Health Clinic (67)
2211 Psychological Counseling for Women (83)
2212 Career Development Resources for Women (26)
2304 Marijuana: General Information (72)
2305 Using Marijuana: Are There Disadvantages? (110)
2306 Alcohol, Barbituates & Sapors (11)
2307 Amphetamines (18)
2308 Cocaine (28)
2310 What To Do If Your Friend Is On A Bummer (33)
2313 General Chemical Use (7)
2314 Responsible Use & Abuse of Chemicals (27)
2315 Chemical Health Checklist (35)
2316 Symptoms of Chemical Dependency (49)
2317 Directory of Chemical Dependency Treatment Centers (16)
2401 Getting Your Questions Answered About the College of Education (21)
2402 Admission Standards & Procedures in the College of Education (22)
2403 Programs in Special Education (28)
2405 Graduate Programs in Education (22)
2410 Education Placement Service (17)
2603 How to Use the Student Employment Service (87)
2604 Sources of Part-time Jobs (73)
2605 How to Write a Resume (111)
2606 How to Write a Cover Letter (49)
2607 Your Job Interview (46)
2701 Financial Aid: Application Procedures & Eligibility (211)
2702 The College Work-Study Program (72)
2703 The Federal Insured Student Loan (68)
2704 Educational Loan Repayment Info (22)
2801 What is the General College? (24)
2802 Counseling Services in General College (8)
2805 Baccalaureate Degree Programs (6)
2806 The GC Student Skills Center (3)
2810 Placement Services in General College (8)
2901 Tours of Campus: The Visitor Information Center (15)
2902 Handicapped Student Services (13)
2903 Evening Study Spaces on Campus (22)
2904 How to Minnesota-ize Yourself for Winter (90)
2905 Grievances: What to Do & Where to Go (12)
2906 Unemployment Compensation (8)
2907 Directory of Resources - Gay Community (39)
2908 Directory of Resources - Lesbian Community (24)
2915 Opportunities for Senior Citizens at The University (1)
2916 How to Enroll in the Senior Citizen Education Program (1)
3001 Completing the Graduate Language Requirement Through Extension (6)
3101 The Boynton Health Service (121)
3102 Hospital Insurance & Extended Coverage Plans (51)
3103 Emergency Care at the University (8)
3111 Smoking: Tips on Quitting (106)
3112 Breast Self-Examination (21)
3113 Pelvic Exam & Pap Smear Information (48)
3114 Non-Smoker's Rights: The Minnesota Clean Indoor Air Act (26)
3131 The Pill: General Information (131)
3132 The Pill: Pros & Cons (99)
3133 The IUD (60)
3134 The Diaphragm (89)
3135 Vasectomy (57)
3136 The Condom (164)
3137 The Morning After Pill (63)
3140 Abortion (67)
3175 Maintaining an Adequate Diet (24)
3176 Planning a Vegetarian Diet (53)
3177 Wise Weight Loss (93)
3178 Food on the Run (27)
3179 Food & Fiber (5)
3201 First Signs of Pregnancy (232)
3202 Directory of Pregnancy Resources (50)
3205 Vaginal Infections (53)
3214 Feeling a Little Tired? (73)
3215 Physical Fitness & the Importance of Exercise (16)
3216 Epilepsy & Epileptic Seizures (12)
3218 Relaxation Techniques (20)
3221 Common Pain Relievers (10)
3222 Vitamins: Some Facts (55)
3223 Over-the-Counter Cold Remedies (14)
3224 Hayfever (24)
3225 Mononucleosis (46)
3250 Gonorrhea & Syphillis (89)
3251 Lesser Known Venereal Diseases (38)
3252 Directory of VD Clinics (64)
3255 Gonorrhea in Women (23)
3501 Should I Live on Campus (47)
3502 Off Campus Housing (47)
3503 Leases (15)
3504 Furnishing Your Apartment Cheaply (36)
3505 Apartment Hunting I (47)
3506 Apartment Hunting II (20)
3507 Sale of a Residence Hall Contract (29)
3510 Laws Affecting Renters (23)
3701 How Do I Meet Americans? (77)
3702 How Can I Improve my English? (48)
3703 Work Permission & Financial Aid (20)
3704 Foreign Students & Legal Problems (11)
3901 Inter-Campus Bus Schedule (92)
3902 U of M Express Bus Schedule (69)
3951 How to Apply to Law School (26)
4001 Directory of Legal Services (43)
4003 Small Claims Court (15)
4005 Obtaining a Minnesota ID (31)
4006 University Student Legal Services (18)

4015 Student Income Taxes (14)
4101 Advising Services in CLA (10)
4102 Cancelling & Adding Courses (23)
4103 CLA Career Development Office (13)
4104 Grading Policy (18)
4106 Probationary Status (18)
4107 The CLA Adult Special Student (25)
4108 Pre-Med Information (102)
4109 Pre-Health Science Information (19)
4110 The Honors Program (48)
4111 How to Register for Next Quarter in CLA (41)
4113 Cross-Disciplinary Studies (CDS) (20)
4114 The Associate of Liberal Arts Degree (17)
4116 The College Level Examination Program (90)
4117 Independent Study Opportunities (12)
4118 Orientation for New Freshmen (42)
4119 Pre-Dentistry Information (37)
4120 Three Ways to Become a Registered Nurse (163)
4121 Pre-Law Information (33)
4132 Liberal Arts Degree (15)
4133 Choosing a Major (22)
4134 The Costs of One Year of College (61)
4137 Concerns of a Transfer Student (23)

SOME CLA MAJORS (New)

4150 American Studies
4151 Anthropology
4152 Studio Arts
4153 Biology
4154 Chemistry
4155 Child Psychology
4156 Computer Science
4157 Economics
4158 English
4159 French
4160 Geography
4161 German
4162 History
4163 Interdepartmental
4164 International Relations
4165 Journalism
4166 Mathematics
4167 Music
4168 Political Science
4169 Psychology
4170 Social Work/Social Welfare
4171 Sociology
4172 Spanish & Spanish/Portuguese
4173 Speech and Hearing Science
4174 Speech Communication
4175 Theatre Arts
4201 Wilson Library Revealed (70)
4202 Institute of Technology Libraries (13)
4402 Williamson Weekends (4)
4404 The Graduate Student Information Program (7)
4501 Check Cashing on Campus (30)
4502 How to Get Into Closed Classes (90)
4503 Notaries Public (15)
4701 Burglary Protection (31)
4702 Operation I.D. (16)
4703 What to Do If You Are Raped (37)
4704 U Police Assistance (4)
4705 U Police: Commendations & Complaints (2)
4901 ROTC: Questions & Answers (22)
5101 Recreational & Intramural Sports (43)
5102 Sports Clubs (14)
5103 Athletic Ticket Information (41)
5104 Casual Recreation Facilities on Campus (41)
5301 Forming or Joining Student Organizations (17)
5303 Unicorn: Meeting with Other Handicapped (8)
5305 Fraternities & Sororities (34)
5306 Student Government: TCSA (7)
5310 College Boards (5)
5320 The Minnesota Unions (2)
5321 Coffman Union Mini-Courses (3)
5322 The Men's Center (18)
5401 Summer Session (43)
5402 Summer Evening Classes (15)
5501 Inter-College Program (13)
5503 University Without Walls (14)
5505 The Foreign Study Program (12)
5701 The Minnesota Women's Center (28)
5702 Women's Studies Programs (9)
5703 Rights of Battered Women (31)
5801 Student Veteran Information (52)
5802 Veteran's News and Update (2)
5901 How to Obtain a Passport (15)
5902 Visa Information (7)
5903 Arranging Travel and/or Study Abroad: ISTC (28)
6021 The Mortuary Science Program (15)
6042 Health Sciences Minority Program (12)
6043 Physican's Assistant Training (90)
6044 Health Careers in Minnesota (50)
6045 A Career in Optometry (New)
6046 A Career in Chiropractic (New)
6098 Medical Technology: Admission Procedures (22)
6099 Medical Technology: Career Opportunities (33)
6109 Programs for RN's who Want the BSN (New)
6110 Rumors of Changes in Nursing (New)
6131 Occupational Therapy Admission Procedures (20)
6132 Occupational Therapy Career Opportunities (21)
6141 Alternatives to Physical and Occupational Therapy (New)
6158 The Field of Physical Therapy (New)
6168 Environmental Health (New)
6169 Hospital & Health Care Administration (New)
6170 Dental Public Health (New)
6171 Public Health Administration (New)
6189 Veterinary Medicine: Admissions Procedures (14)
6190 Alternatives to Veterinary Medicine (New)

DIAL-ACCESS: THE CAMPUS INFORMATION ALTERNATIVE

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It is in the nature of being a college student that one is daily bombarded by a stream of information that severely strains the limits of one's cognitive processes. Assimilating a selection of worldly knowledge from among the enormous holdings of a modern university is, after all, one of the end products of education. The demands of the curriculum on a student's ability to absorb information are neither new nor unchronicled. The fact, however, that the environment beyond the classroom can be just as demanding on an individual's ability to process information receives little or no attention.

College going is more than a succession of courses and attendant lab exercises, field experiences, lectures, papers and exams. The three r's of higher education are not reading, 'riting, and 'rithmetic but rules, regulations and requirements. College going, in fact, is a myriad of information, including rules, regulations and requirements, course descriptions and variations, records, forms, and social, recreational and cultural activities and much more. To maximize the college experience the college graduate will have to navigate through all of this information. In the words of Alvin Toffler (1970, p. 351), people "must scoop up and process far more information than ever before. And...(they) must do this at extremely high rates of speed. Sanity, itself, thus hinges on man's ability to predict his immediate, personal future on the basis of information given him." Certainly, college students must be high on the list of species endangered by the phenomenon of "information overload."

Traditionally, keeping students informed has been left to the print media in the form of random distributions of catalogues, pamphlets and posters. In an era of increasing concern for consumers, the nature and scope of information to be put out is still determined by the information producer as is the format for dissemination. The catalog format, for instance, shows little regard for the user. Catalogues are compiled for a two-year life span which means they tend to be out of date even before they are released. They follow the bombardment theory of information. That is, you give potential users everything they may need to know over a long but indeterminate period of time in one huge dose and hope they remember what they need to know when they need to know it. This is analogous to a physician prescribing all your medications for a two-year period in advance. The problem of timeliness and selectivity is only complicated by the fact catalogues are often page after page of unrelieved print which go unread by a population raised on photo magazines, pop radio and t.v. news.

Being at a disadvantage in the race to keep up with the information that is critical to ongoing growth and development and just plain survival is not unique to college students. There is perhaps no greater frustration for an individual than to know that one's needs are resolvable but that the resources are out of reach because of the inaccessibility of information. The common affliction, if you will, of the latter part of the twentieth century is that rich or poor, sick or well, adjusted or distressed, people are often disadvantaged by an inability to access and assimilate the available information necessary to deal with the complexities of everyday life. On campus or off, in a time of unprecedented resources, much of which are dedicated to social welfare and improving the quality of life, no one should be a victim of lack of information.

For students adversely affected by the campus version of "information overload," the institution seems unnecessarily large, unresponsive and incomprehensible. Individual student services appear uncoordinated and undifferentiated. Students whose identity with the mainstream of a large university may be only marginal to begin with, view this state of affairs as affecting fragmentation of themselves as persons. For the university that accepts the responsibility of short-circuiting this overload, there are any number of program models for improving campus communications. While there seems to be little disagreement among college administrators that the growth of colleges and universities into huge organizations has been accompanied by an urgent need for more and better information and communication, the examples of practical applications of these models are sparse. The

same informational technology, however, that promises to account for "a significant proportion of instruction in higher education on campus...by the year 2000" (The Carnegie Commission on Higher Education, 1972) is available to those who must deal with the problems of disseminating information outside the classroom.

Dial-Access

To deal with the problem on an individualized and immediate basis the University of Wisconsin-Madison has turned to the telephone. Borrowing a page from the telephone company, the University is encouraging students to let their fingers do the walking. This student-University communications model is called the Campus Assistance Center. Included as permanent program components are a telephone and walk-in information and referral center, a publication, THE WHEAT AND THE CHAFF and a dial-access system; The Digital Information Access Line (DIAL). Some transient use is made of slide shows and video tapes. Several other components are only marginal to the communication function of the Center. The combined programs generate over 200,000 contacts with students annually.

DIAL is a library of audio cassettes which is made available to students by telephone. The tapes now numbering well over 300 are prepared responses to the most frequently asked questions about the University, its programs and resources. DIAL offers participating student services and other departments a chance to expand their capacity for communicating needed information to callers quickly and accurately. This relatively new system for communicating with students is based on a simple concept of educational technology known as dial-access. Dial-access allows remote access, in this case by telephone, to audio or visual material stored in a central location. Dial-access was pioneered in language labs and libraries and has been used very effectively to bring health information to health professionals and the general public. In the typical instructional model a student may go to special study carrels, or in some instances a residence hall phone and call up repeats of class lectures, study aids, language material, etc. The idea of using dial-access for student information was conceived on the Madison campus of the University of Wisconsin and first implemented in 1972. DIAL is the first automated system to offer procedural and general information unrelated to course or curriculum content to a student community. The system is not intended to replace either print or one-to-one student-staff contact. The student is simply given an added choice of source and format of needed information. Students may go to printed material, a faculty or staff member, a personal phone service or the tape service.

The DIAL System

The key to DIAL is the telephone. Telephones are plentiful, accessible and relatively inexpensive. They guarantee the caller anonymity and tend to minimize the anxiety and foreboding often prompted by institutional settings. Anyone who has teenage children or who spends any time around young people knows that telephones are the personal communication vehicle of choice.

Tapes are optimally 2½ to 4½ minutes in length. Titles are catalogued by title and code number and widely distributed in brochure form throughout the campus area. Tapes are accessed by calling a central phone number and asking the operator who answers for the selection by code number. The system is available 24 hours a day, 7 days a week.

DIAL A library of tape cassettes, accessible by phone 24 hours a day, providing a quick and easy source of background information of interest and assistance to the UW-Madison community.

To Use Dial:
1 Select the tape you wish to hear
2 Call DIAL at 263-3100
3 Request the tape you wish to hear by number

(From the U.W.-Madison DIAL Brochure, Spring 1978)

There are three major procedural components to the DIAL system: script development and editing and publicity; tape production and operations.

Script Development and Editing and Publicity

Scripting in the DIAL sense is reducing information overload to useful information segments. Scripts are typically confined to single topics which in fact are answers to frequently asked questions as monitored by the Campus Assistance Center's information and referral service.

The Campus Assistance Center's DIAL editorial staff which also prepares THE WHEAT AND THE CHAFF includes the director, the editor and two to three student editorial assistants. Topics are developed into scripts in either of

two ways. After identification of departments on or off-campus with expertise in a prospective topic, they are asked if they would like to develop a tape script. Department(s) that agree to make a tape(s) are designated tape sponsors. All the scripts under the heading Registration and Records, for instance, were originally drafted by members of the Registrar's staff. Draft copies of scripts are assigned to an editorial staff member for review and rewrite if necessary. When both editor and sponsor agree on a version of a script, it is ready for production. If no sponsor comes forward or if a department with the requisite expertise does not want to draft a script, an editorial staff member will do the research and develop the script from scratch. Tapes like "Hitchhiking" and "Termination of Your Rental Agreement" were developed this way.

REGISTRATION AND RECORDS

Fees
3800 Assessment of Fees
3801 Late Fees
3802 Fee Refunds
3803 Remission of Nonresident Fees
3804 Nonresident Tuition Appeals
3805 Minnesota-Wisconsin Fee Compact
3806 Tuition: Residents, Nonresidents
3807 Tuition: Moving to Wisconsin
3808 Tuition: Moving out of Wisconsin

Registration Process
3810 Six Tips on How to Register
3811 Proxy Registration
3812 Your Photo I.D.
3813 What Are Assignment Committee Courses?
3814 Late Registration
3815 Joint Registration With Other Units
3816 Withdrawal from the University
3817 Repeating Failed Courses to Improve G.P.A.
3818 Credit/No Credit Courses

Records
3825 How to Insure a Correct Academic Record
3826 What to Do About Transcripts
3827 Degree Summary
3828 Parents and Grades
3829 Record Holds for Financial Indebtedness
3830 Adding and Dropping Courses
3831 Your Diploma: When and How You Will Receive It
3833 Transferring Credit to UW-Madison
3834 Your Right to Review Your Records
3835 Your Student ID Number

(From the U.W.-Madison DIAL Brochure, Spring 1979)

Updating existing tapes is accomplished in much the same way. Twice a year sponsors are reminded to review their tapes and draft new topics if appropriate. The editorial staff reviews the updated material with the sponsors, alone if the scripts are unsponsored. A chronological record is kept of all activity related to script preparation, updating and tape production.

The keys to good DIAL tapes are concise, complete and well-written scripts. The presentations in most categories are straightforward, informative and free of any subjective advice-giving. Most presentations which address potential student problems end with a referral to an advisor or other helping agency. Sentence structure tends to be short, simple and free of unusual words and jargon. Two and a half, double-spaced typewritten pages, 8½" by 11", equal 4½ minutes when recorded at normal oral reading speed. A mimeographed sheet of advice to the new DIAL script writer is sent to all sponsors.

DIAL

Tape
Number: Title:
Content: Phone: Staff:
Billing: Address:
Voice: Date on System:

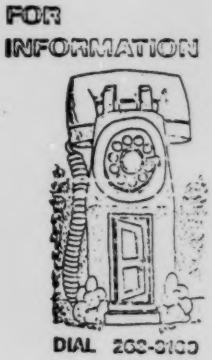
CAC File
Alpha Title(s):
Subject Title(s):

Activity (Date or indicate 'X' if no activity) COMMENTS

Review	Update	Record

(DIAL Tape Record of Activity)

The editorial staff also handles the publicity for the program although sponsors are urged to provide additional publicity for their own tapes. The major publicity item is the DIAL brochure which is a list of the tapes and instructions on how to use the system. The brochure is given out to students as they register in the fall and mailed to them three weeks after registration in the spring. The brochure is also available in waiting rooms, reception areas, libraries and other public areas throughout the campus. The brochure is supplemented by posters, some radio and t.v. public service announcements and newspaper advertising.



(DIAL Poster)

Tape Production

The first thing one has to know about tape production is that telephone lines tend to distort playback. This means that production of the tapes should be done under the best circumstances possible. DIAL uses the studios and technicians of the University of Wisconsin-Extension Instructional Communications Systems. Studio time, recording, editing and dubbing is paid for on a cost plus materials basis. Anywhere from 5-10 tapes can be recorded in an hour's time.

The voices on the tapes are either editorial staff, staff from the sponsoring department or other volunteers who have experience behind a microphone. People who read DIAL scripts should have voices in the mid-range, be relatively free of geographic and ethnic accents and be comfortable reading into a microphone. Sponsors are always given the option of choosing their own voices.

The original tape recording is kept on a reel on file at the recording service. One cassette is dubbed for actual use on the phone system. Additional dubs can be made available to the system on very short notice.

Operations

Providing the playback services is the responsibility of the University's Telecommunications Center. The Telecommunications Center houses the University's telephone information operators. Two operator stations are equipped with playback units coupled to the phone lines. DIAL has access to about fifteen lines and as many playback units because the system shares equipment with other dial-access systems. An independent system could get by with considerably less equipment. Tapes are filed numerically by code number in lazy susan-type storage cabinets. Each operator working a station equipped with dial-access playback units can also receive incoming information calls. When a DIAL line lights up information calls are automatically rerouted to other operators. The operator places the tape cassette in the playback unit and activates it. Once a tape is started it stops automatically. The presentations are recorded on both sides so that they can be replayed repeatedly without rewinding by just flipping the cassettes over. The operators may return the cassettes to storage at their leisure. A light on the playback unit indicates when the play is over.

The equipment is owned by the Telecommunications Center. Amortization, maintenance as well as the operator's time is figured on a cost per call basis and is charged to the DIAL program. There is a variety of dial-access equipment available on the market. New programs will want to discuss equipment and telephones with local communications equipment distributors and telephone company representatives.

Budgeting DIAL

The concept of tapes originating with individual departmental sponsors whose expertise is in the subject matter of the presentation carries over to the budgeting process. At U.W.-Madison DIAL, in effect, is a cooperative venture of the 47 departments that sponsor tapes. Each department that sponsors one or more tapes also agrees to pay the operating and production costs for the tapes. The Center's budget carries the staff time associated with DIAL. Sponsors are billed $15 per tape to cover the cost of production and 12¢ a call for the operating costs. A small percentage of both items is set aside for publicity. Sponsors agree to meet the costs of their tapes through the life of the DIAL brochure that lists their titles, usually about six months.

Typical DIAL Budget for One Year*

Production		
New Tapes	40 @ $15 each	$ 600
Updating	100 @ $15 each	1,500
Operations		
30,000 calls @ 12¢ per call		3,600
Publicity		
Mailing		650
Printing		2,000
Total		$11,950

*This budget is for an ongoing system and does not include start-up costs or staff.

(Budget)

Tallying

The DIAL operators tally all calls by the code number of the title. Reports of volume of use accompany the monthly billing statements.

The Tape Library

Almost any topic that is relevant to a student's academic and developmental passage through his/her college career is fit material for a DIAL tape. The brochure includes more than 70 medical topics. Many of these deal with sensitive subjects about which students might be hesitant to seek information in person. The most popular tapes in this category are those giving information on venereal disease, the pill, the condom, and breast self-examination.

The twenty-eight tapes sponsored by the registrar's office reach peak usage during the University's three registration periods. They provide answers to many questions that arise in connection with registration requirements and procedures. Similarly, the annual spring hunt for off-campus housing prompts increased use of the DIAL tapes on leases, security deposits and how to furnish an apartment inexpensively.

Most of the early tapes provided either factual information or described a service available on campus or in the community. More recently a category of tapes that might be labeled "behavior change" or "helping yourself and others" has been added. These are self-improvement tapes and suggest steps students can take themselves to counteract a problem. A student who is feeling very depressed may want to do some things immediately to relieve that depression or perhaps it is a roommate or a friend who needs someone who can listen empathetically. The University Counseling Service has developed several tapes that offer students some hints on bringing about immediate relief. Similarly, there are tapes developed to help listeners initiate behavior change in regard to improving memory, controlling one's time and preparing for exams.

Helping Yourself and Others
3333 Homosexuality - Just the Basics
3348 Is There Someone I Can Talk To (The Rap Center)?
3334 Decreasing Feelings of Depression
3335 Talking to a Depressed Friend
3336 Counseling a Friend
3337 How to Gain Control of Your Time
3338 Guide to Improving Memory
3340 Preparing For And Taking Exams
3342 Test Anxiety
3349 Mathematics Anxiety
3344 Understanding Your Career Interests (The RIASEC Map)
3345 A Resource Center to Help You in Career Planning
3346 A Method to Improve your Study Habits (The SQ3R Method)
3347 How You Can Read More Efficiently
3339 How to Take Notes

Student Services
C1322 The Psychology Research and Training Clinic
3100 Campus Assistance Center
3101 Career Advising and Placement
3102 University Counseling Service
3348 Is There Someone I Can Talk To (Rap Center)?
3104 What is DIAL?
3107 University Health Service
3114 Vocational Rehabilitation Student Counseling Office
3128 The McBurney Resource Center for Persons with Disabilities
3119 Counseling and Guidance Clinic
3131 The Madison Academic Computing Center: Facilities and Service
3343 Laboratories for Recorded Instruction, Open Hours
3381 Five Year Program—What Is It?
3382 Programa de Cinco Anos—Que Es?
3384 UW-Madison Child Care Facilities
3386 Psychological Services Directory
3118 Academic Dishonesty Code
3774 Tutoring: GUTS and HASH

(From the U.W.-Madison DIAL Brochure, Spring 1979)

For those students who need a break from studying, the DIAL system offers a few minutes alone with the caller's choice of poetry or theater. Two university poets have contributed readings and the University Theater has provided short performances on tape. Both the poetry and dramatic readings help highlight the system and provide innovative possibilities for publicity.

University Views
3417 Carol Hebald Reads Her Poetry I
3418 Carol Hebald Reads Her Poetry II
3424 Blair Mathews Reads His Poetry I
3425 Blair Mathews Reads His Poetry II
University Theatre
3210 Opportunities in the Theatre
3211 Dramatic Reading: Shakespeare's *A Taming of the Shrew*
3416 Dramatic Reading: Albee's *A Delicate Balance*
3415 The Actor Alone
3414 Reading: James Thurber's *The Unicorn in the Garden*

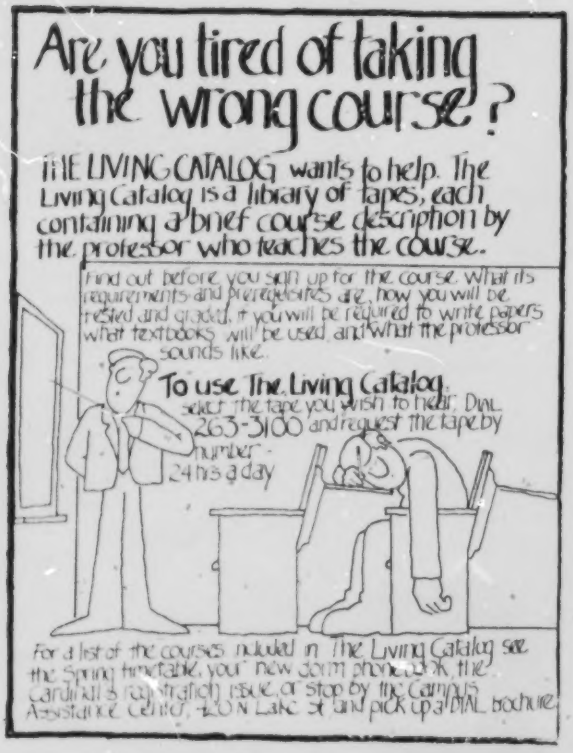
(From the U.W.-Madison DIAL Brochure, Spring 1979)

The Living Catalog

Perhaps the most intriguing innovation offered by the DIAL system to campus communications is the Living Catalog. The Catalog, true to its name, is the live voices of faculty members describing the course they will offer.

Each semester the undergraduate has to make course decisions that will significantly affect his/her collegiate progress. For the beginning student, these decisions may be compounded by choosing a field of study. The

student is faced with a series of questions that often remain unanswered until after registration: What does a particular discipline involve? What will the professor's expectations for the course be? What papers are required? What are the reading requirements? What is the grading procedure? What will be covered in the course? And, also, what is the professor's personal teaching methodology, background, and research interests?


Are you tired of taking the wrong course?
THE LIVING CATALOG wants to help. The Living Catalog is a library of tapes, each containing a brief course description by the professor who teaches the course.
Find out before you sign up for the course. What its requirements and prerequisites are, how you will be tested and graded, if you will be required to write papers, what textbooks will be used, and what the professor sounds like.
To use The Living Catalog select the tape you wish to hear. Dial 263-3100 and request the tape by number. 24 hrs a day
For a list of the courses included in The Living Catalog see the Spring timetable, your new Zoom phonebook, the Cardinal's registration issue, or stop by the Campus Assistance Center, 420 N. Lake St. and pick up a DIAL brochure.

(DIAL: The Living Catalog Poster)

To answer these questions, the student has traditionally had several avenues for help: college catalogs, peer discussion, faculty/advisor contact, and course titles in Timetables. Unfortunately, rising printing costs prohibit frequent and needed updating of information. Catalogs are reprinted every two years. The new student often has few faculty and peer contacts and must make important decisions with limited information. Decisions have to be made in a few days and time is in short supply for both student and advisor. For many students, important questions about prospective courses remain unanswered. Living Catalog tapes offer an additional means of disseminating course information that is inexpensive, easily accessible and efficient as well as timely.

GUIDE FOR "LIVING CATALOG" INTERVIEW

Approximate length after editing: 3 to 5 minutes

Personal Profile

Full name, teaching background, research interests/projects

Course Information

a) General Description: Title, credits, scope (how course in question differs from other similar courses in the department, if there are any), whether class is prerequisite for other courses in the department, what requirements course might meet (i.e. 3 Humanities credits), and goals of course

b) Organization: Type (lecture and/or discussion and/or lab), other teaching staff (other professors, T.A.s, guest lecturers if any), course materials (textbooks, etc.), methods of testing (exams, quizzes, papers), grading

Comments on the Major

a) What is involved in the major

b) Job opportunities

c) Who the student might contact for more information on major

(Guide for Living Catalog Interview)

Producing "Living Catalog Tapes" differs slightly from producing other DIAL tapes. Courses to be included are introductory courses that students have some choice about taking as opposed to being required. Often they introduce an academic area that may lead to vocational choice. Professors must be individually recruited. Often department chairpersons must approve the project. Faculty schedules must be coordinated with studio availability. Unexpectedly, self-composed, competent and confident teachers are less than articulate when you put a microphone in their hands. Presentations follow a prescribed format and the final product is carefully edited by an editorial staffer and studio technician. The U.W.-Madison DIAL system currently has 48 Living Catalog tapes.

THE LIVING CATALOG

The Living Catalog is a program designed to make course selection easier and less impersonal. The following tapes contain brief descriptions of introductory courses by the professors who teach them.

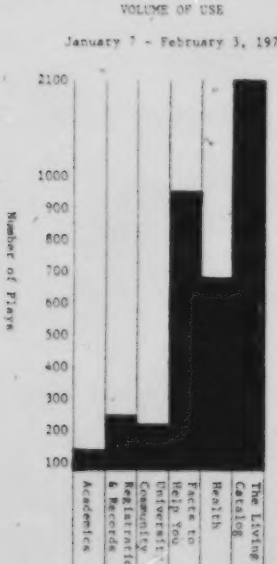
Tape	Department	Course	Instructor
3703	Afro-American Studies	231	Van Deburg
3704	Anthropology	100	Price
3705	Anthropology	200	Strickon
3706	Art History	202	Beetem
3707	Botany	100	Graham
3708	Business	200	Bower
3709	Business	300	Biggs
3710	Introductory Chemistry Courses		Shakhashiri
3711	Communication Arts	250	Allen
3712	Communication Arts	350	Bordwell
3713	Communication Arts	457	Cantor
3714	Comparative Literature	208	Brenkman
3715	Economics	101	Brubaker/Quinn
3716	Economics	103	Culbertson
3717	Economics	104	Wilkins
3718	English	203	Lyons
3719	English	207	Andrews
3720	Geography	101	Doeppers
3721	Geography	102	Sack
3722	Geography	127	Jenner

3723	Geology	100	Wang
3724	History	101	Sharpless
3725	History	397	Bogue
3726	History	399	Risjord
3727	History	446	Ralston
3728	History of Science	201	Lindberg
3729	History of Science	203	Siegal
3730	Home Management & Family Living	366	Boss
3731	Journalism & Mass Communication	201	Hoyt
3732	French Literature in Translation	251	Cothran
3733	Russian Literature in Translation	202	Rosenshield
3734	Spanish Literature in Translation	243	Brancaforte
3735	Introductory Algebra Courses		Hall
3736	Algebra and Trigonometry Courses		Hall
3737	Calculus Courses		Brauer
3738	Music	106	Shetney
3739	Music	305	Monschein
3740	Music	309	Davis
3741	Philosophy	341	Wikler
3742	Political Science	101	Bjorkman
3743	Political Science	209	Fowler
3744	Preventive Medicine	200	Smith
3745	Psychology	201	Rajecki
3746	Psychology	225	Davenport
3747	Sociology	120	Adams
3748	Theatre & Drama	120	Skloot
3756	Women's Studies	101	Lanser
3757	Women's Studies	103	Whatley

(From the U.W.-Madison DIAL Tape Brochure, Spring 1979)

Conclusion

DIAL has proven to be a boon to both the campus information producer and the student audience. A 1975 study showed that 85% of the student body knows about DIAL and more than a third of the student body has used the system. In a typical month more than 2,000 calls are logged in by the DIAL operators.



(Peak Month Dial Use Jan. 7, 1979-Feb. 3, 1979)

Tape sponsors report a variety of marginal benefits in addition to easy and efficient information dissemination. The University Health Service has for a long time, for instance, needed to breach the anxiety syndrome associated with going to the doctor. Many students who would otherwise be overlooked get their first authoritative introduction to such sensitive topics as venereal disease, contraception and personal care via the tapes.

In general, the subjects which have proven to be most difficult to communicate to students using traditional channels have been most popular on DIAL as measured by volume of use. The tapes that have to do with alcohol and other drug use and abuse, the landlord-tenant subjects, the self-help titles as well as the health tapes are in this category. Another beneficiary is the registrar's office which reports a noticeable decrease in questions to harried registration workers since the many registration titles were added to the system.

Drugs

3220 Where to Get Alcohol & Other Drug Information
3221 Treatment Agencies for Alcohol & Other Drug Problems
3222 Drug "Freak-Out": Bad Trips and More
3223 A Guide for Parents
3224 What Is a Drug?
3225 Drugs and the Law
3226 Drugs, Pregnancy, and the Unborn
3227 Quaaludes or Sopors
3228 Valium and Other "Minor" Tranquilizers
3229 Depressant Drugs, Alone and in Combination
3230 Speed: Amphetamines and Substitutes
3231 Cocaine
3232 LSD, MDA, Peyote, and Psilocybin
3233 PCP (Phencyclidine)
3234 Legal Issues of Marijuana
3235 Marijuana
3236 Alcohol: The Number One Drug
3237 Responsible Drinking
3238 Problem Drinking: How to Spot It
3239 How to Choose & Use Over-the-Counter Drugs
3240 How to Use Prescription Drugs
3241 Your Friend Is Drunk

(From the U.W.-Madison DIAL Tape Brochure, Spring 1979)

Two movements now underway in higher education give added impact to the role of a DIAL system in campus communication. The passage of HEW 504 which directs colleges and universities to increase opportunities and resources for the physically disabled to be in regular attendance is one. To meet the requirements of 504, institutions will need to present basic information related to attendance in "alternative formats." Alternative formats in most instances means taping material that previously only existed in print. In the short time since 504 was passed, sponsors like the libraries and Office of Student Financial Aids have asked to sponsor material to meet their new obligations. Another "movement" whose origin is not quite so structured as a

public law has to do with the several court decisions that have applied consumer protection standards to education. It now appears that colleges and universities will have to be quite clear about their rules and regulations and their information will have to be easily accessible to students. A dial-access tape library offers the ease of access and specificity that seem to be required.

The bottom line, however, on using dial-access to communicate with students is that the student recipient has an added choice as to the source of information and referral. DIAL is accessible, anonymous and relatively inexpensive. It allows the caller to be more specific in the questions asked than print. Tapes can be updated on short notice and are therefore more timely.

"It is doubtful, however, that DIAL will replace either staff or print nor was it intended to. The mission of DIAL is to extend the capacity of the University to communicate needed information to its constituents, while at the same time taking some of the pressure off the printed word and making better use of staff time. The added alternative of DIAL goes a long way towards narrowing the gap between availability and accessibility which is so critical on the large campus." (Saffian, 1973, p. 45)

References

Carnegie Commission on Higher Education. The Fourth Revolution: Instructional Technology in Higher Education. New York: McGraw-Hill Book Co., June 1972, p. 1.

Saffian, Steven R. "DIAL: A New Campus Information System," NASPA Journal, Vol. 11, No. 2 (October, 1973).

Toffler, A. Future Shock. New York: Random House, Inc., 1970, p. 351.

Appendix

Remainder of DIAL Brochure not included in text.

ACADEMICS

Allied Health Professions
3455 Curricula Offerings in the School of Allied Health Professions
3456 The Physician Assistant Program
3174 Occupational Therapy Program

Agriculture
3580 Curricula Offerings in the College of Agricultural and Life Sciences

Biocore
3595 Biology Core Curriculum

Education
3516 Transferring to the School of Education
3517 Employment Outlook for Teachers
3519 Basic Degree Requirements

Letters and Science
3150 L&S, Academic Help: Where & How to Get It
3165 Communicative Disorders L&S or Education Program
3175 Women's Studies Program

Programs
3128 McBurney Resource Center for Persons with Disabilities
3120 Inter-Session Study
3125 Summer Study and Interim Sessions Off Campus
3200 The Honors Program
3202 La Maison Francaise
3201 Study Abroad
3465 Officer Education Programs
3500 Institute for Environmental Studies (IES): Instructional and Research Programs
3123 African Languages and Literature
3575 Programs in Textiles, Clothing, Interiors, and Design
3271 The School Nurse Certification Program
3674 Aging: The Coming Attraction

Summer Sessions and Special Students
3109 Office of Summer Sessions
3110 Special Students Office (Non-degree Candidates)
3121 Free Instruction for Guest Students 62 Years and Older
3122 Guest Students Under 62 Years of Age

Financial Aid
3624 Applying for Financial Aid
3635 How Financial Need Is Determined
3636 Financial Aid for Graduate and Law Students
3637 Aid for Self-Supporting Students
3638 Basic Educational Opportunity Grants
3639 Undergraduate Scholarships
3640 Work-Study Employment
3641 Where Can I Find A Part-Time Job?
3642 Can I Work and Get Financial Aid at the Same Time?
3643 Guaranteed Student Loans
3644 Short-Term Loans
3645 Repaying Education Loans

Registration Process
3810 Six Tips on How to Register
3811 Proxy Registration
3812 Your Photo I.D.
3813 What Are Assignment Committee Courses?
3814 Late Registration
3815 Joint Registration With Other Units
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3830 Adding and Dropping Courses
3831 Your Diploma: When and How You Will Receive It
3833 Transferring Credit to UW-Madison
3834 Your Right to Review Your Records
3835 Your Student ID Number

UNIVERSITY COMMUNITY

Adult Education
3110 Special Students Office (Non-Degree Candidates)
3111 Continuing Education Services
3121 Free Instruction for Guest Students 62 Years and Older
3122 Guest Students Under 62 Years of Age

Computer Services
3132 Low-Cost Interactive Instructional Computing
3130 Batch Computing for Course Work and for Individual Use
3131 The Madison Academic Computing Center: Facilities and Services

Libraries
3343 Laboratories for Recorded Instruction, Open Hours
3474 Cooperative Children's Book Center (CCBC)
3475 Introduction to Major Campus Libraries
3478 Hours of Service: Memorial, Major Campus Libraries
3479 Low Vision Reading Rooms for the Print Handicapped
3480 Library Services for Persons with Disabilities

Parking
3485 Parking on Campus

ROTC
3465 Officer Education Programs

Recreational Activities
3406 Intramural Sports and Recreation Programs
3408 Open Recreation
3409 Intramural Sports
3410 Sports Clubs
3407 Reserving University Rooms and Equipment

Legal Information
3318 Are You Being Discriminated Against?
3350 What to Expect in Traffic Court
3351 Changing Your Name; Keeping Your Maiden Name
3352 Small Claims Court Procedures
3353 Criminal Arraignment Procedures
3354 Divorce
3355 Legal Services in Madison
3356 Registering to Vote, Absentee Ballots
3357 Obtaining a Wisconsin I.D.
3385 Affirmative Action
3404 Title IX: Women's Rights and Education

Protection
3750 What to Do If Raped
3751 Protect Your Bicycle
3752 Protect Your Property from Petty Theft
3754 Transportation for Women (WTA)
3755 Rape Crisis Center

Bicycles
3751 Protect Your Bicycle
3677 Bike Ways in Madison: Routes, Lanes and Paths
3678 Bicycling Safely

Travel
3280 Requirements for Travel Outside the U.S. by Foreign Students and Faculty
3675 Obtaining Passports and Other Papers for Travel Abroad
3676 Hitchhiking
C1183 Immunization for Travel

Veterans
3600 Veterans' Benefits

UW Credit Union
3267 UW Credit Union Loans
3270 Kwik-Cash: A Convenient Service for UW Credit Union Members
3272 UW Credit Union's Share Drafts
3273 UW Credit Union: Four Available Savings Accounts
3274 UW Credit Union: Membership & Services

HEALTH

3107 University Health Service
C1377 An Appointment with Your Physician
C1185 Give A Little Blood

Cancer
C1081 What Is Cancer?
C1120 Breast Self-Examination
C1125 Cancer of the Lung
C1128 Tips to Help You Quit Smoking
C1131 Cancer of the Uterus

Contraception
C1180 The Condom as a Contraceptive
C1193 The Unwanted Pregnancy
C1065 Thinking About Vasectomy?
C1297 Contraception—It's Your Choice
3289 Pregnancy Testing
3299 IUD Facts
3300 Morning After Contraception
3301 The Diaphragm as a Contraceptive
3302 The Pill: Side Effects and Current Issues
3327 Female Sterilization

Food and Health
C1095 Salt—Iodized or Not?
C1150 Food for Health
C1151 Are You a Vegetarian?
C1152 Health Foods and Fad Diets
C1153 Keeping Foods Safe to Eat (I)
C1162 More Tips on Keeping Foods Safe (II)
C1078 The Botulism Story
C1155 Have a Weight Problem?
C1164 Sense and Nonsense About Calories
C1165 The "Magic Formula" for Weight Loss
3267 Why We Drink Coffee
3749 Food Stamps

General Medicine
3290 The Common Cold
C1079 Thinking of Suicide?
C1252 Do You Have a Friend Who is Thinking of Suicide?
C1035 Reusing Medicine
C1379 Saving Your Back
C1154 No Time For Exercise
C1077 Physical Fitness Through Exercise
C1087 Prevention of Ski Injuries
C1108 High Blood Pressure
C1111 Cardiopulmonary Resuscitation
C1138 Having Headaches?
C1146 Lice
C1147 Athlete's Foot
C1406 Warts
C1148 Venereal Warts
C1149 Scabies
C1166 Avoiding Auto Accidents
C1182 Constipation
C1203 What Causes Asthma?
C1205 Living With Hayfever
C1207 Something In Your Eye?
C1233 First Aid for Frostbite
C1279 Got the Flu?
3307 Poison Ivy
C1277 Who Cares If You Brush Your Teeth Anymore?
3303 Common Vomiting and Diarrhea
3304 Vaginal Infections
C1291 Mononucleosis
C1356 Hepatitis
C1320 Rabies and Animal Bites
3292 Introduction to the Urinary Tract and Tract Infections
3293 Urinary Tract Infection in Women—Cystitis
3294 Fever: What It Means and What To Do
3295 Your Nose and How It Works
3296 Herpes
3298 Ear Wax
3266 Sports Injuries of the Knee
3268 Sports Injuries of the Ankle
3288 What To Do About Dry Skin

V.D.
3306 Syphilis
3305 Gonorrhea
3291 Sexually Transmittable Diseases

NEED THE ANSWER?

Marjorie Olson
Operations Manager and Information Services Coordinator
Memorial Union, North Dakota State University
Fargo, North Dakota

Providing the answer for students, staff, and residents of the Fargo-Moorhead community is the goal of the dial access system at North Dakota State University.

The system is appropriately entitled T.A.P.E., an ancronym for Telephone Access Program Exchange. The letters of T.A.P.E. correspond to the numbers on the telephone dial, i.e., 237-T.A.P.E. (237-8273).

Development of T.A.P.E. at North Dakota State University

In the fall of 1976, the Student Affairs Division of North Dakota State University set up an Information Task Force Committee whose assignment was to provide an improved information system to the North Dakota State University community.

It had been ascertained by a campus survey that students were not wholly satisfied with the information they were receiving.

Task Force members further explored the problem by talking with various department directors in the Student Affairs Division to determine their methods as well as their needs in disseminating information.

A dial access system had not been considered until the concept was discussed at an Association of College Unions-International conference. The task force was excited about the idea and approached and received approval from the Vice President of Student Affairs for a commitment of money to establish a system at North Dakota State University. The Director of the Memorial Union was then approached for a commitment of space within the Union. Approval was again received.

At this point the responsibility for establishing the dial access system was turned over to a graduate student in the Counseling Center who was also a member of the Information Task Force Committee. It was through his efforts with the support of the Vice President of Student Affairs that T.A.P.E. became operational in May of 1977.

Equipment and Costs

The physical make up of the dial access system consists of the following:

1. Four incoming phone lines on a Centrex line system which allows automatic transfer of calls to the open line available when others may be in use.

2. Four Telex tape playback decks featuring Braille coded keys which would allow sightless student operators to work for T.A.P.E. should the opportunity avail itself.

3. Four Bell telephone couplers designed to interface the Telex machines to the phone lines that allows direct connection of line and deck, thereby freeing the phone receiver for subsequent incoming calls.

4. The information is recorded on special length C-10 cassettes which have the same message recorded on both sides in opposite directions so that when the message is complete the operator simply presses the fast forward button to re-cue the tape for the next call.

5. Three tape storage cabinets offering easy accessibility to the tapes by operators. Each cabinet contains 336 tapes.

6. Sanyo automatic answering device used to give and receive messages when T.A.P.E. is not in use.

Costs are as listed below:

4 Incoming Phone Lines @$12.00/$48.00 per mo.	$576.00	per annum
4 Telex Tape Decks @$165.00	660.00	
4 Bell Telephone Couplers	532.90	
100 Cassette Tapes (original purchase)	62.70	
1 Sanyo Automatic Answering Device	220.00	

It should be noted that the costs listed are for the original equipment and, with the exception of the phone charges and cassette tapes, are not recurring. Additional costs for advertising and in-house types of expenses are not included.

Scripts

Cassettes are recorded from scripts that are prepared by University departments, offices, and student organizations.

The scripts for community related tapes are prepared by the respective organization concerned with the topic. T.A.P.E. retains the right to edit scripts for uniformity.

The procedure for soliciting scripts is to ascertain the need for a script on a certain topic (requests and suggestions are continually coming in from students and interested persons), and contact the "expert" to author a script on the subject.

Usually a page and a half to two pages of script will suffice.

Script Guidelines

1. Scripts should not exceed 3 1/2 minutes when read aloud. A maximum of one and a half or two pages of typed copy, double spaced, in script form is most desirable. Remember, phone retention time is limited; therefore, an important concept to consider when dealing with details and length of script. Use of an orator size script head is suggested.

2. Focus on only one subject per tape. Deal only with the subject of the tape.

3. Each script should have a specific descriptive title reflecting the subject of the tape.

4. Use simple language, words that are in common usage, and short sentences. Exclude all extraneous information and phrasing. This can be accomplished by:

   a. keeping your particular audience in mind
   b. using the first and second person, that is: "Our suggestion is to...", or "You may find our services useful if you...."
   c. rereading the finished script aloud to see how it strikes the ear

5. Use an informal introduction and close with a referral number to call. The number of referrals should be kept to a minimum. If you are so inclined, begin the tape with your office address and phone number, but every tape should conclude with the name of a person to contact in your office for further information, a phone number and address.

   For example,

   "We hope this information will help you understand our counseling program...."
   "If you have any questions, please call _____ at _____."

   A good formula to follow is: Tell what you are going to talk about. Present your content. Summarize what you have said.

6. Tips on Writing of Scripts

   a. remember that the listener may not be university oriented; therefore, try to keep your script as informal as possible
   b. give some thought to the possibility that your listener may be taking notes
   c. repeat names or phone numbers that you anticipate your listener will want to use

Recording

The majority of the original scripts were recorded by the N.D.S.U. Agricultural Extension Communications staff. As new scripts are added to T.A.P.E., they are recorded by student employees using the Agricultural Extension facilities.

A number of scripts are recorded on a weekly or daily basis, such as, "Today's Events", a listing of campus activities; the food service menus; a list of staff job openings on campus furnished by the Personnel Department.

In instances where a script is updated on a routine basis the person directly involved with the script has the responsibility for updating and recording, i.e., the reservation secretary records "Today's Events" each day. A student employee has the responsibility for updating and recording the food service menus and staff job opening scripts each Friday, so as to be available to T.A.P.E. the following Monday. This systemitizes the updating and recording of scripts needing immediate attention.

A tape recorder is kept in the office and is used for recording the daily and weekly scripts. The results have been of good quality which is a major concern.

In hiring student employees preference is given to those majoring in Communications and to those with experience and interest in this area.

Tape Categories and Titles

T.A.P.E. SERVICES TO NDSU

General Information

What is T.A.P.E.
NDSU General Information
Academic Dates to Remember
Special Services to Students

Admissions

Admissions, General Information
Early Entry
Older Than Average Students
Concentrated Approach Program
Scholars Program
Late Afternoon and Evening Classes
Tri-College University Course
NDSU-MSU Covered Programs
Prospective Student Campus Visits
Admission to Nursing
Admission to Animal Health Technician Training

Business Office

Business Office, An Introduction
Student Service Fees - Where Does Your Money Go?
Payment of Tuition
Payment of Housing
Tuition Refunds

Campus Religious Opportunities

University Lutheran Center
Growth Opportunities in the Ministry
General Information
The Newman Center
"Twice Happy Christian Marriage"
Fellowship of Lutheran Young Adults

Cancer

Breast Self Examination
Smoking: What It Does and How To Quit
Pelvic Exam and Pap Smear

Contraception

Advantages and Disadvantages of the Pill
The IUD as a Birth Control Method
The Morning After Pill
What You Should Know About the Pill
The Diaphragm as a Contraceptive
Vasectomy - Male Sterilization
The Condom
Foams and Jellies
The Rhythm Method

Counseling

The Counseling Center
The Career Center
Testing and Testing Programs
Death and Dying
Career Planning Class
It's Your Career, Develop It!

Improvement of Reading
Withdrawal from the University
Interpersonal Relationships
Self Growth Group
Depression and Suicide
Drugs
Transfer Procedures from One College to Another
Marriage and Family Counseling
Study Skills
Human Sexuality
Test Anxiety
Credit by Examination
Orientation for New and Transfer Students
Free Tutoring for Freshmen
Programmed Weight Loss - Great Shape
Information on Relaxation Techniques
"How to Survive College"

NDSU Credit Union

Membership and Service

Dental Hygiene

Everyday Dental Hygiene
What Causes Tooth Decay and Gum Disease

Drugs and Chemical Dependency

Alcoholics Anonymous
Campus and Community Drug and Alcohol Treatment Resources
What is Alcohol Abuse?
Alcoholism - The Progressive Disease
Alcoholism and Your Health
What is Your Alcohol IQ?
Be a Non-drinker
How to Recognize Chemical Dependency
Barbiturates
Methaqualone
Cocaine
Amphetamines
LSD
Marijuana
Morphine
Peyote and Mescaline
Hallucinogenic Drugs
Heroin - History - Addiction - Withdrawal
Caffeine
Psychedelic Drugs: What to Do in a Crisis
PCP

Employment

How to Write a Resume
Job Information and Placement Center
How to Apply for Employment at NDSU
Do's and Don'ts for Job Interviews
Tips on Writing Letters of Recommendation
Part Time Student Employment Opportunities
Listing of Current Staff Job Vacancies

Equal Opportunity

Equal Opportunity and Programs
Equal Opportunity and Employment

Financial Aid

How to Apply for Financial Aid at NDSU
Disbursement and Repayment of Student Loans
Work Study Program for Students
Where do I Look for a Job on Campus?
Disbursement of Financial Aid
Federally Insured Student Loan

Food Services at NDSU

General Information about Food Service at NDSU
Dacotah Inn - Menu and Hours
Twenty After - Menu and Hours
Catering Services for Organizations and Student Groups
How Can I Lose Weight?
Calculating Your Calorie Needs
Discover Your Eating Habits
Exercising Your Weight Away
Keeping A Food Diary
Starting A Diet
Control Your Weight by Behavior Modification
The Calorie Story
Lose Without Eating Less
Group Dieting
Keeping the Calorie Count Down
Eye It Before You Diet

General Medicine

First Signs of Pregnancy
Importance of Exercise
Over the Counter Cold Remedies
Some Facts About Sleeping Aids
Hay Fever
Facts About Infectious Mononucleosis
Non-Prescription Pain Relievers
Thinking About an Abortion?
Vaginal Infections
How to Select an Aspirin Product

Prescription Drugs and the Consumer
Sudden Infant Death Syndrome
Vitamins - How Important Are They?
Common Cold
Your Child Has a Bad Cold
What an Electrocardiogram Means to Me
Legal Drug Overdose - What to Do
Illegal Drug Overdose - What to Do
Acne and Proper Nutrition
Exercise and Nutrition
Frostbite
Effects of Smoking
Effects of Caffeine

Handicapped Services

Reference Phone Numbers for the Handicapped
The Handicapped Student at NDSU

Health Care on the NDSU Campus

Student Health Insurance - What Does It Cover?
NDSU Student Health Center
NDSU Student Health Services

Independent Studies

An Alternate High School Diploma

International Students

International Student Programs at NDSU
Immigration and Naturalization Service
Work Permits

Legal Assistance

North Dakota Landlord Tenant Laws
Door-to-Door Sales
Student Legal Aid

Library

Your NDSU Library

Memorial Union

Memorial Union, "What's in it for You?"
Ideas for Indoor and Outdoor Recreation at Memorial Union
Publicizing Your Event
Planning a Meeting/Reserving a Room
Suggestions for Program Conference Planning
Skill Warehouse
Art Gallery
The NDSU Varsity Mart: A Student Service/ Textbooks, New and Used/Policies and Procedures of the University Store
1978-79 Fine Arts Series
Skill Warehouse Course Offerings
Varsity Mart Academic Apparel/Rental-Spring Commencement
Used Books-What are They-How They are Handled

Registrar

Changes in Registration
Incompletes
Transcripts
Pass/Fail Grading System
Transfer Credit Evaluation
Withdrawal from the University
Pre-Registration

Student Activities

NDSU Flying Club
Campus Attractions
Student Activities Center/Organization Resources
Sororities and Fraternities, General
Sororities at NDSU
YMCA of NDSU
How to Study in College (YMCA of NDSU)
S.A.E. Fraternity
Lincoln Speech and Debate Society
Psychology Club
News Bureau Publicity Services for Students
Free Play at the NDSU Fieldhouse
4-H at NDSU
Homecoming '79
Circle K
NDSU Vets Club
A.T.O. Fraternity
ACM - Why Join?
Kappa Alpha Theta Sorority
Farmhouse Fraternity
Saddle and Sirloin
Engineers & Architects/Sigma Phi Delta Fraternity
Blue Key Honorary Society
The Rugby Football Club
Campus Attractions Film Series
Little Country Theatre

Student Government

Student Government at NDSU
Tri-College Consumer Grievance Procedures
Presidential Appointments
Student Organization Recognition

Student Housing

Married Student Housing
Single Student Housing
Off-Campus Opportunities
MSA-YMCA People to People/Used Furniture Project

Venereal Disease

Gonorrhea and Syphilis
Venereal Warts
Gonorrhea in Women
Genital Herpes

Veterans Benefits and Services

Services Available to Veterans at NDSU
Application for GI Bill Benefits
Tutorial Assistance
V.A. Work Study
V.A. Educational Loan
Withdrawal or Class Changes and Your G.I. Benefits

Women's Concerns

North Dakota Sexual Conduct Laws
Fargo Police Procedures Concerning Sexual Assault
What to do if you are Raped
How to Prevent Being Raped
Rape and the Law
Women and Health - Issues in Health Care
Women and Employment: The Problem of Wage Discrimination

Agriculture

Help Wanted in Agriculture
Career Opportunities in Agriculture
Agronomy - Careers and Majors
Enrolling in the College of Agriculture

Division of Continuing Studies

General Information - Division of Continuing Studies

Engineering and Architecture

Programs in Engineering and Architecture

Consumer - General

Consumer Complaints - Who to Call

Consumer and Home Economics

Home Economics Education Career Opportunities
Careers in Textiles and Clothing
Guide to the Food and Nutrition Department
Coordinated Undergraduate Program in Dietetics
Graduate Studies in Home Economics
Facts About the Home Management Course
Child Development and Family Relations
Department of Design - Information, Curriculum and Career Opportunities
Microwave Ovens
How to Preserve Jewelry
Day Care and Pre-School Services

Tri-College University Information

Tri-College University Courses
NDSU-MSU Covered Programs
Tri-College Consumer Grievance Procedures
Tri-College Graduate Degree in Educational Administration
Center for Environmental Studies
Tri-College Share-A-Ride Bulletin Board
Tri-College Bus Schedule
Tri-College Humanities Forum
Tri-College University: General Information

University Studies

Bachelor of University Studies Degree
Undecided Student

Humanities and Social Sciences

Opportunities in Business and Economics
"Are There Jobs for Liberal Arts Majors?
Opportunities in Counseling and Guidance
Tri-College Graduate Degree in Educational Administration
Teaching as a Career in the Public School
Community Education

Mathamatics and Science

Free Help for Math Students
Metric Conversion
Mathematical Sciences Consulting Service

Pharmacy

Careers in Pharmacy
Externship-Internship Program
Pharmacy as a Profession
Pharmacology
The Student American Pharmaceutical Association (SAPHA)

Nursing

Have you Got Nursing on Your Mind?

Special Offerings

O.T.A. (Older Than Average Students)
Scholar's Program
Teammakers
Army R.O.T.C.
Arnold Air Society
Air Force R.O.T.C.
Cooperative Education - A Degree With Direction
University 196 - The Human Condition in a Changing World
KDSU-FM, Stereo 92 - Public Radio from NDSU

T.A.P.E. SERVICES TO THE F/M COMMUNITY

Montessori Method

The Montessori Method of Teaching Children

American Red Cross

Your Minn-Kota Red Cross

Arthritis - Recognizing and Managing the Disease

Basic Facts of Arthritis
Osteo Arthritis
Rheumatoid Arthritis
Degenerative Arthritis
What it Means to Have a Chronic Disease

Association for Retarded Citizens - Cass County

General Overview
Expectant Mother, What You Should Know About Mental Retardation
Mental Health Association

Birth Right

General Information

Boy Scouts of America

General Information

Campfire Girls

Camp Fire is More Than Roasting Marshmallows

Catholic Family Services

Adoption and You
Unmarried and Pregnant

Center for Parents and Children

General Information
What is Child Abuse
Losing Your Kool With Your Kids?

Center for Women

Task Force - Battered Women

Chamber of Commerce

Canadian Customs for Returning Canadians
"Know Before You Go; Returning U.S. Citizens From Canada
Shopping Center and Restaurants
Fargo Recreational Opportunities
Chamber Consumer Center
Holidays, American and Canadian

Children's Village

Consumer Credit Counseling
Family and Individual Counseling
Problem Pregnancy
Adoption
Retired Senior Volunteer Program
Adopt-A-Grandparent
Big Brother - Big Sister Program
Pastoral Consultation
Family Life Education

Clay-Wilkin Opportunity Council

Information About Programs for Special Problems and Needs
For Your Four Year Old Child

Community Education Opportunities for Fun and Learning

General Information
High Schools
Arts and Crafts
Business Knowledge and Training
Home Economics
Personal Development and Interests
Recreation and Health

Cystic Fibrosis Research Foundation

Cystic Fibrosis

Fargo Park District

Fargo Park District: Introduction
Learning to Skate Classes for Youth
Learning to Skate Classes for Adults
Public Ice Skating - Fargo Coliseum
Open Gym
Novice Patch
Patch and Freestyle Figure Skating
Ice Dancing Classes
Public Skating
Ladies and Tots Hour
Youth Hockey
Outdoor Skating Rink
Inner Tube Sliding
Women's Basketball
Cross Country Skiing

Fargo Senior Services

General Information
Community Dining
Bus Sercice
Van Service with Escort
Outreach Assistance Information and Referral
Educational Opportunities
Recreational and Social Activities
Home Delivered Meals

Fire Safety

Learn Not to Burn -Stop, Drop, and Roll

Girl Scouts of America

Girl Scouting

Fraser Hall

Fraser Hall - Facility for Young Mentally Handicapped Women

Hot Line

Hot Line - SEEK - What is it?

Jewish Welfare

General Information

Lake Agassiz Arts Council

General Information
F/M Civic Opera Company
F/M Community Theatre
Plains Arts Museum
F/M Symphony Orchestra

Lutheran Social Services of North Dakota

Unplanned Pregnancy: Help from Lutheran Social Services
Experienced Help During a Difficult Time: Friends
General Overview

New Life Center

The Arm of the Church - New Life Center

Southeast Mental Health and Retardation Center

An Overview of Services
Adult Services
Alcohol and Addiction Services
Children/Adolescent Services
Infants and Young Children Services
Intermediate Care Services
Automobile Safety
Child Management Classes
Bed Wetting

United Way

The United Way of Cass-Clay

Vocational Rehabilitation

Help Through Vocational Rehabilitation

Volunteers for Community Service

Information and Referral Service
Voluntary Action Center

YMCA

Stay Cool, Use the "Y" Pool
Total Fitness
Fargo/Moorhead Family "Y"

YWCA

YWCA - Women on the Move

HOME SERVICE INFORMATION

Canning

Canning Equipment
Buying A Pressure Canner
Using Your Pressure Canner
Canning With a Pressure Saucepan
Testing Your Pressure Canner Dial Gauge
Boiling Water Bath Canner
Canning Jars
Choosing Lids for Canning
How to Can Vegetables
Hot vs. Raw Pack Canning Method
Canning Baby Foods
How to Keep Fruits from Floating
Reasons for Liquid Loss from Jars
Why Lids Don't Seal
Unsafe Methods for Canning
Canning Apples and Applesauce
Canning Carrots
Canning Dried Beans
Canning Fruits and Juices
Canning Meat, Fish and Poultry
Canning Snap Beans
Canning Soup and Mixed Vegetables
Brownish Discoloration of Canned Fruit
Pink or Other Discoloration in Canned Fruits
Cloudiness in Liquid of Canned Foods
Canning Tomatoes

Canning or Freezing

Preserving Beets
Preserving Peas and Edible Pods
Preserving Potatoes

Preserving Winter Squash and Pumpkin
Preserving Zucchini and Summer Squash

Freezing

Basic Steps for Freezing
Buying a Home Freezer
Foods Not to Freeze
Freezer Management
Loading Your Freezer
Defrosting the Freezer
When the Power Goes Off
Thawing Damage to Frozen Foods
May Thawed Foods be Used?
Refreezing
Don't Collect Antiques in the Freezer
Freezing Fruits
Sugar-free Freezing
Prevent Discoloration in Freezing
Freezing Apples and Applesauce
Freezing Grapes, Fruit Cocktail and Melons
Freezing Pears and Peaches
Freezing Raspberries and Strawberries
Freezing Rhubarb
Freezing Vegetables
How to Blanch Vegetables
Why Blanch Vegetables?
Freezing Asparagus
Freezing Beans - Green and Wax
Freezing Broccoli and Brussel Sprouts
Freezing Cabbage, Carrots, Mixed Vegetables
Freezing Celery and Onions
Freezing Corn
Freezing Eggplant
Freezing Herbs, Chives, Leeks
Freezing Mushrooms
Freezing Baked Goods
Freezing Dairy Products
Freezing Fish
Freezing Meat and Poultry
Freezing Pies and Pastry
Freezing Salads
Freezing Sandwiches
Microwave Blanching

Food Safety

Botulism
Cross Contamination in Foods
Guard Against Canned Food Spoilage
How Long are Home Canned Foods Safe?
Is it Safe to Use Frozen Canned Foods?
Kitchen Whodunits
Poor Food Handling Can Cause Food Poisoning
Time-Temperature Relationships: Life Begins at 40°F
Why? No Turkey Stuffing?
You and Food Safety - Are you a Finger Licker?
Diseases of Tomatoes
Diseases of Tomato Leaves

Food Storage

Drying Food
On-the-Shelf Storage
Oven Drying
Refrigeration - What a Blessing!
Storing Root Vegetables-Carrots, Onions, Potatoes
Storing Squash and Pumpkins
Storing Tomatoes
Storing Peppers
Storing Eggs, Egg Dishes and Milk Products
Storing Fresh Fish, Meat and Poultry
Storage to Avoid Pantry Pests

Jellies and Jams

The Family of Jellies and Jams
Making Jelly
Fruits for Jelly Making
Making Juice for Jelly
Making Jelly Without Added Pectin
Making Jam and Jelly from Frozen Fruit
How to Make Frozen Jellies
Weeping Jellies Upon Storage
Making Jam
Uncooked Jam
Jelly and Jam in the Microwave

Kitchen Safety

Can Your "Cook's Corner" Pass a Health Inspection?
How do you Handle Waste?
What do you Use in Your Clean Up Center?
Why Should You be Concerned With Cookware Care?

Miscellaneous

Can Money Be Saved by Buying Meat in Large Quantities?
Floor Waxing Problems
Home Dyeing
How to Sew Corduroy Fabric
Making Horseradish
Making Sauerkraut
Preserving Herbs
Preserving Sunflower, Pumpkin Seeds and Popcorn
Preserving Nuts

Pickles and Relishes

Pickles and Relishes
Equipment for Pickling
Methods for Pickling
Choosing Cucumbers
Water and Salt Brine
Vinegar for Pickling
Making Dill Pickles
Brined or Cured Pickles
Pickling Problems

Stain Removal

Adhesive Tape, Calomine Lotion, Insecticides, Ointment and Salve, Stains from Washable and Unwashable Fabrics
Antiperspirant, Deodorant, Mercurochrome, Methiolate, Metaphen and Picric Acid Stains
Asphalt or Chewing Gum Stains from Fabrics
Ballpoint Ink Stains from Fabrics
Candle Wax from Carpeting
Candle Wax from Table Linens
Coffee, Tea, Fruit Juice, Soft Drink, Alcoholic Beverage and Wine Stains from Washable Fabrics
Fruit Juice, Jam, Jelly and Fruit Preserve Stains from Nonwashable Fabrics and Washable Fabrics
Grass and Flower Stains
Grease Stains from Washable Fabrics
Home Permanent Solution Stains from Non-Washable Fabrics
Home Permanent Solution Stains from Washable Fabrics
Iodine Stains from Washable and Nonwashable Fabrics
Mildew Stains from Washable Fabrics
Mud Stains from Washable Fabrics
Mud Stains from Nonwashable Fabrics
Perspiration Stains from Washable Fabrics
Rust Stains from Fabrics and Floor Coverings
Shellac From Fabrics and Floor Coverings
Suntan Lotion from Nonwashable Fabrics
Suntan Lotion from Washable Fabrics
Urine Stains from Carpets and Rugs
Vinegar and Vegetable Stains from Nonwashable Fabrics
Vinegar and Vegetable Stains from Washable Fabrics

LAWN AND GARDEN INFORMATION

Flower Gardening

Care of Tulips and Daffodils After Blooming
Cutting Roses
Easter Lily Care
Fall Care of Tuberous Begonias
Fertilizing Roses
Growing Hardy Chrysanthemums
Planning a Flower Border
Planting and Dividing Iris
Starting Annuals Indoors
Starting Tender Roses
Starting Tuberous Begonias
Summer Care of Dahlias

Fruit Growing

Growing Apples in North Dakota
Growing Grapes
Planting Raspberries
Planting Strawberries
Pruning Apple Trees
Pruning Raspberries
Storing Apples
Why Fruit Trees Fail to Bear

Home and Garden Insect Pests

Ants
Aphid Control on Ornamentals
Apple Maggot Control
Black Flies
Bronze Birch Borer Control
Cankerworm Control
Cereal Insect Control
Cutworms in Gardens
Gall-Making Mites
Nightcrawlers
Onion Maggot Control
Slugs and Snails
Spider Mite Control
Stinging Insect Control
Tick Control

Indoor Plants

Containers for Terrariums
Planning Your Terrarium Landscape
Soil and Construction of Terrariums

Lawn Care

Bare Spots in Lawns
Correct Mowing Height
Ground Covers
Growing Grass in the Shade
Lawn Seed Mixtures
Mid-Summer Lawn Care

Moss in Lawns
Mushrooms and Toadstools in Lawns
Seeding a Lawn
Sodding a Lawn
Thatch in Lawns
Watering Lawns
Zoysia Grass not Adapted for North Dakota

Plant Diseases

Apple and Crabapple Diseases
Ash Anthracnose (Twisted Brown Leaves on Green Ash)
Bleeding of Elm Trees (Elm Wetwood Disease)
Black Knot Disease (Black Swelling on Plum and Cherry Branches)
Diseases of Cuburbits (Cucumbers, Melongs, Squash, Pumpkins)
Dutch Elm Disease
Fireblight of Apples, Crabapples, Cotoneaster, and Mountain Ash
Peony Blight (Brown Rotting of Leaves and Buds)
Potato Diseases
Rose Diseases and Control
Tomato Fruit Diseases
Tomato Leaf Diseases
Powdery Mildew
Bacterial Wilt (Wilting of Cucumber and Squash Vines)

Predators and Wildlife Pests

Bats
Mice
Pocket Gophers
Rabbits
Raccoons
Skunks
Snakes
Tree Squirrels
Yellow Bellied Sapsuckers

Vegetable Gardening

Controlling Garden Weeds
Growing Asparagus
Growing Broccoli, Cabbage and Cauliflower
Growing and Drying Herbs
Growing Potatoes
Growing Rhubarb
Growing Sweet Corn
Growing Tomatoes
Harvesting Squash
Making Compost
Mini-Vegetable Garden
Saving Vegetable Seed
Selecting Small Fruited Tomato Varieties
Starting Vegetable Seedlings Indoors
When to Harvest Vegetables

Trees and Shrubs

Fertilizing Trees and Shrubs
Planting Hedges
Planting Nursery Stock
Planting a Tree
Pruning Deciduous Trees
Pruning Evergreens
Pruning Overgrown Shrubs

Lawn and Garden Weeds

Common Chickweed
Crabgrass
Creeping Bellflower
Dandelion
Ground Ivy
Knotweed

Special Holiday Tapes

Holiday Food Safety
Give a Gift of Food
Holiday Meats

Administration

Supervision for the T.A.P.E. Information Service is provided by a staff member of the Memorial Union in combination with operational duties of the Memorial Union building.

A student operations assistant provides the secretarial services, schedules student employees, assists with recording and training of student employees.

T.A.P.E. is located and combined with the Activities Desk in the main lobby of the Memorial Union and is manned entirely by students having a combination of duties such as; answering the T.A.P.E. phones, supplying information of a general nature to persons coming to the Memorial Union, sorting student mail, taking ads for the student newspaper, and becoming involved in a variety of student services. The variance of duties as well as the student contacts works well as the students familiarity with the taped information assists them in answering questions

posed by persons stopping at the desk to seek information. The number of a tape which would provide more detailed information could be given if more information were needed. The reverse is also true, as persons calling 237-T.A.P.E. can be provided with information which might not be taped but would be known by the operator through the contact with Activities Desk.

Student operators funded through the college work study program staff the combined T.A.P.E. and Activities Desk function. Hours of operation are 9:00 A.M. - 11:00 P.M., Monday through Friday, and 12:00 Noon through 5:00 P.M., on weekends.

Advertising

Advertising is accomplished through the use of brochures distributed campus wide, and ads placed in the student newspaper.

Community groups providing scripts are requested to advertise the T.A.P.E. service. This has resulted in gratis advertising; for example, when the Fargo Park Board published their Sports Recreation Program as a supplement to the major newspaper in Fargo, they added the following:

"TELEPHONE ACCESS PROGRAM EXCHANGE - North Dakota State University offers Dial-a-Tape Telephone Service to the Fargo-Moorhead area. The program, which is called T.A.P.E., not only provides information on student activities, it also provides information on various domestic problem solving techniques for your home, Fargo-Moorhead human resources services, as well as programs offered by the Fargo Park District."

Script Filing System

Original scripts are filed in the T.A.P.E. office. A card file system has been developed to store information on scripts.

Categories of the card file are:

1. Active
2. Updating
3. Promotional (tapes related to a specific time of year and are periodically put in and taken out of the system)
4. Future
5. Deleted

The Active category is filed numerically according to the sequence of numbers assigned to a particular subject.

For example the lead card in a particular category would read:

Admissions
1000 - 1050

Each card filed under Admissions category would list the tape number, tape title, contact person, address, phone number, and have a space allotted for notes.

For example:

TAPE NO. 1000 - Admissions

TAPE TITLE Early Entry

CONTACT PEPSON Ann Winship

Address: Ceres Hall, NDSU

Phone No. 237- 000

NOTES: Script updated August 1, 1978

Use of the card file makes the information on a particular tape easily accessible. Should a tape be removed from the system for updating, the card would be pulled from the active file and placed in the updating file.

Summary[2]

The dial access system at North Dakota State University has grown from 90 tapes to over 600 in a 20 month period. Some of the advantages are:

1. Cost Effectiveness. The T.A.P.E. system created the most effective means of information distribution per dollar invested than any on-going program of its nature, we believe. Not only does T.A.P.E. bring the messages to the individual, but additional realization can be observed in terms of saving of time spent in efforts to locate a specific body of knowledge. One student operator can dispense information on 600 subjects - clearly a saving in salary expense.

2. Accuracy. The information dispensed is accurate due to the fact that the "expert" is charged with the responsibility for producing the script, thereby assuring the greatest degree of accuracy possible.

3. Timeliness. The information stored in the T.A.P.E. bank is monitored continuously to insure quality.

4. Updating. Probably the greatest advantage over traditional information outlets is that T.A.P.E. can update any segment of information within hours upon receipt of new scripting. This allows flexible programming not normally found in standard dissemination systems.

5. Anonymity. Perhaps the most outstanding feature of the T.A.P.E. system, from the caller point of view, is that the identity of the caller is protected, thereby allowing sensitive information, such as contraception, venereal disease, general medicine, and other subjects that normally produce anxiety to be distributed without a face-to-face threat creating environment.

6. Referral. Each T.A.P.E. message is followed by a telephone number that directs the caller to the source of the message to receive further information on a follow-up basis. While it is the aim of T.A.P.E. to inform the public on a multitude of subjects, it is not intended to be a substitute for live contact and personalized service, but rather additional support to the efforts of those participants in the system. The benefits of direct referral eliminates the need for many "false starts" in seeking information subsequent to listening to a tape. Use of the tape system eases the redundancy of phone calls received by offices, agencies, and departments that is normally sought by direct inquiry, taking up valuable staff time answering repetitious calls and questions.

1. *Campus Assistance Center, University of Minnesota, Minneapolis, Minnesota*

2. *Taken in part from notes of Richard Baba*

NUTS & BOLTS OF STARTING AND OPERATING A CAMPUS-WIDE INFORMATION CENTER

Steven P. Barry
Question Center Director
Department of Psychology
Washington State University

Washington State University's "Question Center" opened for business in April of 1977. The Question Center is the University's information and referral center. From its first day, the Center was an apparent success. Hundreds of people called and dropped-by each week to listen to our information tapes, learn about concerts and other campus events, and to get help in finding answers to their seemingly endless variety of questions.

The apparent popularity of the Question Center, however, does not give the residents of this eastern Washington community even a hint of the battles waged for months prior to its opening. It is the intent of this chapter to discuss the politics of starting the Question Center. It is hoped that a discussion of the problems and difficulties we met will allow others to gain by our experiences and lessen any difficulties others may experience in starting campus-wide information centers.

There were several areas in which we experienced problems: from whom would our funding come?; to whom would we be accountable?; where would the Center be located?; there would be attempts to censor some of our information tapes; were we legally liable for the information we presented on our medically-oriented tapes (e.g. drugs, birth control, health care, and human sexuality); who would staff the Center?; and, there would be a great deal of staff and faculty reluctance in helping us produce the information tapes that would be available at the Question Center. The first topic will be that of funding the Question Center.

FUNDING

It was noted above that the Question Center opened in April of 1977. I was hired in September of 1976 to direct the development of the information center; however, prior to my arrival a great deal of energy had already been put into its development by Bob Fahrer, WSU's Assistant Director of Residence Living. Bob had been tackling several tasks. First, approval to even begin the work of designing the Center necessitated some lengthy bargaining. The "OK" to ask for the construction design had to come from the University's Executive Vice-President, Vice-President of Finance, and Vice-President of Student Affairs. Then, only if and when the construction design was approved, would funds for salary be allocated. However, there was still the job of getting funds to build the Center. This was no easy task. Both the Executive Vice-President and Vice-President of Finance had to authorize movement of funds, already commited to other WSU projects, into the Center's account. This represented a total of $5,000 that had to be re-allocated to cover the cost of the Center's construction.

WSU's student body had approached the Administration about the students' desire for a centrally-located information and referral center. The students' needs were met only after one person, Fahrer, took the time to actively lobby for the Administration's financial and psychological support.

At the same time Fahrer was approaching the Administration for support, he also went to the Student Assembly for financial backing. This proved far less frustrating. With a promise to publicly acknowledge its contribution, we received several hundred dollars for the installation of our phone system and for the printing of brochures describing the Center and tapes available.

In our third year of existence, the problem of funding is still.....a problem. The University if feeling a budgetary crunch and, though this year's funding came from the Office of Student Affairs, its Dean has not commited himself for the next fiscal year. With our own budgetary crisis as a result, I am considering a drastic restructuring of the Center's paid staff. The Director's salaried position could be changed to one in which an advanced undergraduate or graduate student could earn semester hour credit while getting valuable, on-the-job experience in public relations, personnel management, writing and editing scripts, etc. Secondly, we could drop the position of Outreach Coordinator, the person responsible for publicity and serving as the liaison between the Center and the town's public school and social agencies. The third and last alternative

would be to make both paid staff positions "work study" positions. The advantage here would be that the Center need carry only 20% of the total salary and the other 80% would be covered by the Federal Government.

Each of the above alternatives has its limitations. Our goal, therefore, is to continue to lobby for our own cause, with a goal of having the University consider the Question Center a permanent part of the campus and its annual expenses as part of the regular University budget.

ACCOUNTABILITY

It was noted above that our funding came from two very different sources: the Student Assembly and the University Administration. These very different sources of money and the situation to-be-discussed next led to considerable problems in determining to whom we were accountable.

After we received our funds, it had not been decided where the Question Center would be located. Some choices had been offered us, none of which were located in areas that would afford us exposure to a large number of students each day. Some people on campus backed the option that we be located on the top floor of the University's main library; a guarantee of a quick death, if there ever was one. The Student Union was our first choice, but space, we were told, was not available.

We continued to lobby for room in the Union and its Director agreed to give us one, unused area: a closet. We jumped at the opportunity; the closet was located on the main floor and would give us maximum exposure to the University community.

With the Center's opening approaching, we were faced with a real confusing problem. The Administration partially funded us, but would not assist us with the accounting/bookkeeping aspects of the budget; the Student Assembly funded a small percentage of our budget and would only assist us in managing its part of the total budget; and, we were located in a building whose Director was on record for not supporting the idea of a student-run information center and preferring that the Center not be located in the Student Union. The Director was also given the added insult of being responsible for the accounting/bookkeeping for a budget (our's) over which he had no authority.

Sound confusing? It got worse as time passed. The Union Director's staff proved to be quite an obstacle for us. For example, budget statements were three months late getting back to our office; bills for our phone service were delivered to us one year after they were due; occasionally, we were billed 2 or 3 times for the purchase of a single item. The Student Assembly's managing of our budget did not help matters. Though only its percentage of our total budget was the Assembly's responsibility, the Assembly took it upon itself to manage the entire budget. This was a clear over-stepping of its responsibility and one that took 2 years to straighten out.

The confusing issue of accountability was not without its benefits. We hoped to produce 200 information tapes by the opening day. Each tape took several hours of research, writing and rewriting, before the final script could be recorded. In the meantime, the Student Union Director's staff, Student Assembly and University Administration had not coordinated their efforts to oversee and supervise our operation. So, while each was assuming the others were supervising us, we were able to put all our energy into producing tapes and were not slowed down by any administrative redtape.

CENSORING

Both the University Administration and the Student Assembly transferred funds into our account and we were ready to get down to the task of writing and recording the information tapes that would be available at the Question Center. We went back to the students and asked them what topics they would like us to cover in the tapes: drugs?, academics?, financial aid?, campus activities? The first choice, with no close second contender, was the area of human sexuality. We were asked to consider topics ranging from "sexual dysfunction" to "male sexual response", from "birth control" to "abortion".

We read voraciously on the subjects and consulted with various experts throughout the State. After each scripts was in what we hoped was its final form, we returned the scripts to the persons most knowledgeable in each area and asked for final comments before the scripts were recorded. Scripts were usually returned with a minimum number of changes and we were ready to roll. Or, were we?

It was suggested that, since some of the human sexuality tapes were directed to women, a woman would be the appropriate choice for voicing these tapes. We then contacted a very likely candidate: a woman whose job it was to read lectures onto tapes for some of the visually-impaired students on campus. She agreed to do the job and was supplied with scripts and blank tapes. I returned a week later and got back exactly what I had given her: scripts and

blank tapes. It seems that her employer was offended by the subject matter in some of the scripts and he was threatening to take measures to censor what was going to become available to the student population.

To say the least, we were shocked and dismayed with the threat. We were less than two weeks from our planned opening and did not like the idea of anything delaying this. We realized, however, that others' comments on our human sexuality tapes were consistantly favorable. We handled very personal subject matters in an accurate and caring manner. We chose to call our censor's bluff and hope that the student body's reaction would be favorable enough that any subsequent censoring of material would be totally unacceptable.

Our gamble proved successful. Callers asked for tapes in the human sexuality area at a rate three times that of all other tapes put together. Listeners' evaluations of these tapes were consistantly excellent. To further our own cause, we invited the people who initially opposed these tapes to call us up and listen to them. They, too, agreed that they were informative and very good. The threat of censor was gone. We thought!!

We soon encountered a second, unexpected, and more stubborn effort to control the information available from the Question Center: the public school system. We approached the schools with our project and asked to publicize the Question Center and the tape bank to high school and junior high school students. We met with a resounding NO! from school administrators. Again, the human sexuality area, as well as the tapes on drugs, were the culprits. The schools were willing to advertise us to the students if we removed any mention of the above-mentioned tapes. We considered this to be quite unacceptable and a "head-in-the-sand" attitude. Many high school students are sexually active and experiment with drugs. These tapes were informative and could prove useful in helping younger persons make informed choices on matters such as birth control and drugs.

We rescinded our request to go directly to the students and chose to reach them in a different way. We advertised our tapes on local TV and radio stations; printed tape lists in the town's only newspaper; and, made hundreds of the tape lists available at the local public library. From a public relations perspective, our approach towards reaching the public school students was not straightforward, i.e. with school officials' approval. However, we chose to side-step the schools' parens patriae stance and offered the tapes to the students. We did this realizing that listener reactions had been consistantly favorable and the tapes contained some necessary information, with which the students could make intelligent choices vis-a-vis drugs and sexual intercourse.

SCRIPT WRITING

Each of the information tapes at the Question Center involved several hours of work, from the development of the topic to recording it onto the cassettes. Once we were funded, our "staff" consisted of myself and one undergraduate. We elected to go to those community and University people who had expertise in the areas that would be covered and request their cooperation in writing the scripts. Our hope for cooperation proved to be a pipedream. This next section will discuss the reasons we believe were instrumental in this very low level of cooperation.

A student-run, phone-in information and referral service was unheard of in the State of Washington when we were developing the Question Center. No one with whom we spoke had had any experience with or exposure to an agency such as our's. This appeared to work to our disadvantage when asking people to write scripts for us. People proved enthusiastic up to the point we asked for commitments of assistance. The attitude sensed was that people were quite skeptical that we would succeed in developing the Center, let alone convince people to use the services. Many time we heard the same messages: "It sounds like a good idea to me, but can you guarantee it will be worth my time?"; "You guys haven't even opened yet; there's no way I can know what people want to hear"; "Call me after you've been open for a few weeks, and I'll see what I can do for you". Again and again we received the same message: prove yourself first and we'll help you later.

We came up with an idea, however, that helped us in producing dozens of tapes. One undergraduate english class at WSU, during any one semester, has over 1,500 students enrolled. Students are asked to write many, many essays; and, a common problem in this class if for the instructors to come up with enough interesting topics on which the students can write. We were able to offer help to these instructors and, in turn, their classes helped us. We gave all the classes copies of the information from which we were to write particular tapes: book chapters, pamphlets, newspaper articles, etc. Students were then assigned these topics; the only restriction being that scripts had to fit 5-minute cassettes (approximately four, single-spaced, typed pages).

It took a great deal of time to get the information to the instructors, but the results were very satisfactory. With no limitations on the types of scripts we would accept, students

put their imaginations to good use and gave us a couple of dozen clever, attention-grabbing and very informative tapes. As a "thank-you" for their time, students whose scripts were finally used were given credit for the script at the end of the tape.

After the Center was started, staff and faculty cooperation in writing scripts has increased tremendously. It was becoming obvious that we were offering a fast and inexpensive way of making information available to, potentially, thousands of people. At first, staff and faculty would write scripts for us, if we requested them to do so. Now, however, we are in a very enviable position: each month we get many scripts in the mail—unsolicited requests from the community to add information to our tape bank.

LEGAL LIABILITY

Two days before the Center was to open, we were faced with a totally unexpected hurdle that might have forced us to delay the opening indefinitely. The staff of WSU's main library had been very helpful in developing tapes on various aspects of using the campus" library system. One of the staff, a lawyer, asked if we had considered whether we were legally liable for the information on the tapes; more specifically, those that dealt with matters relating to drugs, birth control, and general health care. The lawyer's fear was that some of the tapes could be misperceived as definitive medical advice and we would, essentially, be practicing medicine without a license.

It was suggested that we include a disclaimer at the end of each of the medically-oriented tapes, stating that we were not attempting to give medical advice or make diagnoses and and end with the suggestion that the listener should visit a professional if s/he had any questions or concerns. This would have been difficult for us, however, as virtually all the tapes we were to open with had already been voiced. We were able to strike a compromise: an "Introduction to the Question Center" tape was produced and, along with a discussion of the Center's general philosophy, we included a disclaimer as the lawyer had suggested.

STAFF

I hope to end this chapter with a summary of those difficulties we encountered in developing and operating the Question Center; and, suggestions will be offered on how we might have done some things differently. At this point, however, one final and still on-going problem will be discussed: difficulties in "staffing" the Center.

The day-to-day handling of the Question Center activities is run by student-volunteers. Volunteers work an average of two hours each week, with a range of one to five hours for all the staff. Since we are open Monday through Friday, 9am to 5pm, it is easy to see that we have a large number of students working at the Center. Some semesters over 30 students volunteer their time to run the Center.

With such a large staff, we have encountered the irritating problem of poor attendance. Tests, Spring weather and social events are a few of the reasons staff members state for missing shifts. Poor attendance became a very serious problem during our third year and our credibility on campus dropped considerably. We are attempting to alleviate this problem in several ways. First, a staff training manual was developed and in its introduction consistent attendance is stressed. Unexpected emergencies do arise and we expect that students will have to miss an occasional shift. Unannounced absences are unacceptable, however. The manual specifically mentions that if a staff member does not call in to notify us when a shift will be missed, that person will be excused from any further obligation as a Center staff person.

This measure appears to be having a positive effect on staff attendance. Some staff apparently perceived the attendance requirement as being too strict and stopped working at the Center. This has resulted in a smaller, albeit very highly motivated staff. And, as the semester progresses, each new staff person is in position to understand, explicitly, what is expected of the staff. The end result is that the current staff has proven to be the most dependable staff the Center has seen.

Other, smaller matters appear to have influenced the quality and commitment of the Center's staff. Prior to this academic year, Psychology Department Practicum credit was available to students who worked at the Center. Requirements for credit were relatively minor: write two new scripts for the tape bank and submit a written evaluation of one's opinion of the services offered at the Center. Quickly, the word spread that one could get an easy 1 or 2 semester hours credit by working at the Question Center. Some staff priorities may have leaned towards getting easy credit and not towards the experience and value of working at the Center. This year, no credit is available. The result, again, appears to be a smaller and much more highly motivated staff.

The third change we employed was to limit the staff to students at the sophomore level or above. Prior to this decision, 10-15% of

the staff would consist of freshmen. Though often very excited about working at the Center, younger undergraduates lacked the experience of being a student long enough to know much about the University and surrounding community. Freshmen became very frustrated by the number of questions for which they had a difficult time finding answers. Their frustrations would lead to missed shifts. Now, first year students are encouraged to volunteer the following year. Their service to the Center is needed and appreciated, but we feel it is beneficial for all concerned if students wait until their second year before working at the Question Center.

SUMMARY

I have discussed various problems we experienced in developing and operating the Question Center. The experiences we had were unique to our efforts; however, if they suggest broader implications for others wanting to develop campus information and referral centers, then this chapter may prove useful.

Various difficulties with funding, liability, accountability, script writing, staffing, potential censoring, and the location of the Center were discussed. It is easy to look back on these experiences and suggest ways we might have done things differently. Readers considering development of an information center are not yet in position to use this, often infallible, hindsight. Our hindsight may then be of help to you.

We are approaching the University Administration for funds well-armed with statistical ammunition. All our calls and walk-up visits have been carefully logged. Each and every time an outside agency or university consults with us, the Administration hears of this from us. The Center is publicizing the entire University when others consult with us. Currently, a student from WSU is working on a thorough evaluation of the Center. This evaluation is touching on issues ranging from community members' awareness of the Center to the effectiveness and usefulness of the services we are providing. It is our hope that these data will convince the University to continue to fund the Center.

The issue of accountability can not be fully settled until is is determined who will fund us. In the meantime, however, we have attempted to alleviate some of the confusion by actively reaching out to the various campus groups who oversee our operation. That is, instead of waiting for the Student Assembly, Union Director and University Administration to coordinate their efforts, we are assisting them to do so. As a result, the confusion we have suffered has decreased.

Earlier problems with staff attendance and cooperation in writing scripts appear to have been amended. Staff are well aware of our expectations for them and no attendance problems are evident this semester. The level of use of the Question Center has remained constant throughout its existence: over 100 contacts each week. This level of use continues to impress community and University personnel and we continue to receive scripts from people who ask that we add it to the Center's tape bank. There appears to be no problem in convincing others to write scripts for us now.

With respect to our flirtation with possible censoring, I see no way we could have anticipated this problem. We were in position of knowing that our tapes were well received; so, threats of censor, albeit an annoyance, dissipated as more and more people requested and respected those tapes most threatening to a few people in the University community.

The last problem—where would the Center be located?—was remedied because of some "tenacious flexibility". "Tenacious" because we focused our energy on getting space in the Student Union; "flexible", however, because any space in the Union was acceptable. Once the "closet" was turned over to us, many staff and students put a great deal of time and effort into transforming it into an eye-catching and very functional information and referral center.

BEGINNER'S GUIDE TO PLANNING A TELEPHONE-BASED INFORMATION SYSTEM

James Kelly
Academic Information Coordinator
The Pennsylvania State University
University Park
Pennsylvania

TIPS (Telephone Information for Penn State) accepted its first call on January 16, 1978. Within one hour, the phone lines dedicated to TIPS had become severely overloaded: 5000 callers attempted to reach the TIPS number through one of our four phone lines. Although we were stunned by the initial response to TIPS and concerned about the image of TIPS created in the minds of 4000+ callers, we also knew that TIPS would be a success. For those of us involved, this deluge of calls was the reward for two years of meeting, planning and writing.

Developing a Telephone/Tape Information System

Committee, Categories and Purpose

Although we made contact with several universities (particularly Wisconsin) that had developed TIPS-type systems, those of us at Penn State (University Park) who participated in planning TIPS were naive about the how, why, how much and how many issues that are necessarily part of developing an information system.

Except for the Director of our Listening-Learning Services (language and lecture tapes) none of us had any experience with phone/tape systems. Considering the outcome (the topics and number of tapes) this naivete was largely responsible for the success of TIPS, because we planned TIPS where we identified information needs; we did not consider, in the early stages, budget, appropriate equipment, tape format, limitations of a telephone-based system, publicity, tape production, handling and storage, and the need for operators to answer calls, load tapes and refile them.

In addition to the Director of Listening-Learning Services, the TIPS planning committee included representatives from Penn State's offices of admissions, residential life, academic information, and student activities. Each of us was charged with examining our areas of responsibility, determining if and how a phone/tape system could be used to disseminate information, and developing an initial core of topics to be included in the system. We made a composite list of all topics and found that they fell into a few major categories. With minor variations or additions most colleges and universities would likely develop a similar list of topics:

Academic

majors
special programs
policies
procedures
courses
study skills
grades and examinations

Student Life

housing
financial aid
activities and organizations
consumerism
employment and career
personal issues
transportation and travel

Health/Medical

vision problems
self-examination for cancer
venereal disease
common health problems
smoking
drugs
alcohol
diet
nutrition and pollution

Athletics

golf
tennis
swimming
ice-skating
handball
raquetball
squash
basketball
intramural activities

Other

Provides a general category for tapes that do not fit other categories, for example,

highlights of the University's television station, or a list of recordings added to TIPS since our last brochure.

Although this general outline could be used by other colleges and universities to design a phone/tape system, I would not recommend adapting one school's model to another school's needs. Form your own planning groups, identify your particular needs and design a system appropriate to those needs. While I'm not suggesting that everyone should constantly reinvent the wheel, our experience with planning TIPS convinced us that in many cases either we could not or did not want to include topics developed by other universities. Factors that influenced our decisions and that determine the content and reach of any telephone/tape system are: geographical location; sophistication (or lack of it) of your campus; and, the purpose (directed toward student or general public service) of your system.

When we had determined our limitations and established a realistic purpose (to provide information to the University community, and second, to the general public in our immediate vicinity), we submitted a plan to the administration, received initial funding, purchased equipment, installed phone lines and began developing the on-line content of the system.

Planning and Equipping a Phone/Tape Facility

The most critical element in developing a phone/tape system for Penn State had nothing to do with content, funding or publicizing the system. The key to establishing TIPS was the University's decision to convert its phone lines from mechanical to electronic switching. If the University had not planned to convert to electronic switching, TIPS would not have been a possibility for us.

For several years prior to our work on TIPS, new phone lines were simply unavailable at the University. The older, mechanical switching equipment could not accommodate requests for phone lines from students who wanted phones in their rooms, from organizations or from University offices. When the local phone company installed its electronic switching equipment it became possible to handle all of these requests as well as to make a phone/tape information system feasible. The moral of this tale is: do not take anything for granted. Apparently the degree of sophistication of telephone technology varies across the country; therefore, I urge you to discuss your project with the local phone company before planning a phone/tape system. Once assured that sufficient phone lines are available you can develop content and select equipment.

Equipping your phone/tape facility need not be expensive nor require remodeling of available space. There are several tape formats (cassette or continuous loop cartridge) systems available and this variety allows you to choose equipment that ranges from inexpensive to very expensive. The most important considerations are: 1) good sound reproduction; and, 2) reliability (minimal down time).

Since our planning committee was naive, some of us visited universities with operating systems and discussed the merits of each in our weekly meetings. We wanted to build a system that was both inexpensive and reliable. For us, the best choice seemed to be an adaptation of the system used at Wisconsin--standard automobile cassette players with a slight modification (see figure 1).

Fig. 1

We decided on this format for two reasons: first, we planned to house TIPS in our Listening-Learning center which had both cassette and reel-to-reel recording and duplicating equipment; second, Wisconsin's equipment met our reliability and cost needs. After one and one-half years of operation we do not regret our decision; we have not had to pull a single machine for repairs, nor have we had any problems with tape jams or breaks. However, to insure that your system will always be "up", it is a good idea to buy at least one more machine than you actually need; if a breakdown does occur you will always have a full complement of players.

Continuous loop cartridge systems may offer similar reliability plus other advantages (automatic return to starting point and shut-off, for example). The decision to use either cassette or cartridge format will largely be determined by cost coupled with your present technology or the technology and facilities your campus is planning.

After determining that sufficient phone lines were available and deciding upon equipment that met our needs, we considered how TIPS would operate on a minute-to-minute, day-to-day basis: where to locate the tape machines, the tapes, the operator; how to handle tape storage; how to install the cassette players for most efficient access; how to operate TIPS in the limited space available.

Since TIPS was considered experimental, we did not develop specific plans to remodel existing facilities for TIPS operations. We looked for an easy, inexpensive, but workable solution; consequently, we decided upon a small space (12' x 16') in a corner of our Listening-Learning Services room. Within this small space we located a desk that would provide working space for an operator, hold the operator's phone and a high speed tape rewind machine, and provide storage space for the TIPS logs that are maintained.

Directly to the operator's right we installed our cassette players in a set of shelves that were home made at the University's carpentry shop (see figure 1). Behind the operator we placed our cassette storage rack, capable of holding seven hundred cassettes. This lazy-susan storage rack was also constructed at our carpentry shop (see figure 2).

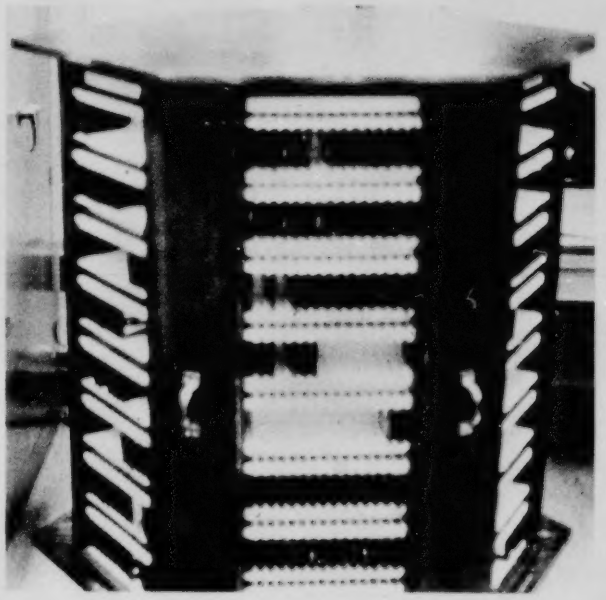

Fig. 2

The entire space occupied by desk, operator, cassette player shelves and storage rack is no more than 5' x 7'. Because we ordered several back-up cassette players and designed the storage rack to accommodate possible expansion of the TIPS system we expect that this limited space could meet TIPS needs for several years. Confining TIPS to such a small space also provided the simplicity and efficiency that we were looking for, since a single operator could easily answer the phone, spin the cassette storage rack while taking a caller's request, select the appropriate tape, load it and prepare to take the next incoming call (see figure 3).

Fig. 3

Fig. 4

Planning and efficient operation aside, the only test for your phone/tape system will be its on-line operation. Shortly after we established TIPS it became clear that certain tapes were requested so often that operators could not handle all requests. To solve the problem of high frequency requests, we installed several automatic answering machines to serve the large number of requests for the weather, calendar of events and calendar of arts events (see figure 4). If your campus expects to offer these kinds of information, you may want to plan for automatic answering machines in your budget. As we quickly discovered, an automatic answering machine was the only solution to the more than 13,000 requests for our weather tape.

If you are considering offering a "time check" service on your phone/tape system, be prepared to dedicate a single phone line to this service. After discussing this option with our local phone company we decided against offering a "time check" service, and considering the volume of calls for weather and our calendars we now would not consider a "time check."

Except for the unexpected demands on equipment and operators caused by the volume of requests for the weather, our plans for equipment and space have proved adequate. TIPS is currently expanding offerings, but we see no need for additional equipment, storage space or working room. We have stayed with our simple/efficient approach and I would recommend a similar approach to anyone planning a phone/tape system.

Developing Content for a Phone/Tape System

Although I have taken time to describe the planning of TIPS and the configuration of equipment and facilities that emerged from that planning, the heart of any information system is, of course, the content.

Selecting Topics

In our most expansive mood the TIPS planning committee identified a broad range of interest areas that we felt should be contained in a telephone-based information system. Topics proposed extended from day-to-day concerns about academic, social and personal information for students to community and state-wide public service information

tapes that would provide appropriate medical and agricultural information. After exploring the complexity, cost and potential liability associated with some of these topics, we retreated to more modest goals that would provide appropriate information for our immediate constituents (students, faculty, staff, and local community), as well as provide time and opportunity to debug the system.

For purposes of managing TIPS content, we arbitrarily divided topics into academic and non-academic categories. The academic tapes such as information about our colleges, majors or academic policies would be developed through our Division of Undergraduate Studies. Non-academic tapes would be developed through Student Affairs. Although many TIPS tapes fall into nooks and crannies not covered by these two offices, we felt that through the two offices, we could handle all potential requests, monitor tape development and be reasonably confident about accuracy and appropriateness of tapes. To date, we have had no reason to change our thinking.

In planning for our first year of on-line operation we considered 100 tapes to be a workable library. A survey of our committee identified approximately one-hundred topics that were listed as high priority information areas and we spent more than six months in interviewing, writing, editing, rewriting, and recording. As our opening day approached we were shy of our 100 tape goal by eight or ten; this was largely due to the inability of some departments or offices to develop TIPS scripts along with the normal demands on their time. The lesson to learn here is: under no circumstances should you include in your directory or listing of tapes the names of tapes that have not been written or recorded.

While you may want to believe that each and every office will actually produce a script or tape after a verbal commitment, be somewhat of a doubting Thomas and run your system by the simple adage: we believe it when we see it! To illustrate the necessity of following this simple principle, our first brochure listed tapes on anxiety, dealing with depression, and suicide. When TIPS went on-line in January 1978, these tapes had not been completed, and the severity of that winter coupled with the normal winter term blues spurred an avalanche of requests for these tapes. Not only were we embarrassed to admit to callers that the tapes were not available, but as the winter wore on, we became increasingly worried that we were contributing to the callers' anxiety or depression by advertising tapes that we actually did not have. Since that time we have made it a firm policy to list only those titles for which we have scripts in hand.

Another content issue was the extent to which organizations might write advertisements for themselves through TIPS. The committee agreed that TIPS should remain a neutral information source and not be used in a competitive way by organizations, offices or service units. Maintaining a balance between information giving and advertising was a difficult task because we wanted TIPS to provide the information as a service to our constituents, but we did not want TIPS to be identified with, nor held accountable for the actual service or experience the caller might encounter in following through on a TIPS referral. For instance, one campus food service operation developed a script that described its food as tempting, scrumptious, and delicious. We agreed to record their script only if the value words were removed. Other organizations described their services as the best, or unique, or something that no student should miss. In all cases we discussed with the individual offices our no advertising rule of thumb and in all cases they agreed to remove promotional words and phrases.

At the present time, Penn State student organizations number more than three hundred; as yet, we have not encouraged organizations such as fraternities, sororities, religious, social or political groups to submit scripts, and we have no immediate plans to include these groups in TIPS.

Academic Information

A major surprise for all of us was the frequency of requests for academic information. Of the 33,000 calls that TIPS received in its first six months of operation, 7,000 calls were requests for academic information. This interest in TIPS' academic tapes most likely reflects the general concern with academics that is evident among students at universities and colleges throughout the country. For our opening day, we planned to have fifty academic tapes available for callers. Very shortly that number was increased to seventy-five and currently our academic tapes number more than one hundred.

Naturally, all tapes are not called with similar frequency. A brief listing of our high frequency tapes includes:

dropping a course (received the most requests)
correspondence study (through Penn State's Department of Independent Study by Correspondence)
College of Business Administration
law school preparation
medical/dental school preparation
graduate school admissions
dean's list
deferred grades
credit by examination
pass-fail grading
grade-point deficiency
transcripts
adding courses
auditing courses
changing majors
declaring a major
graduation procedures
leave of absence
withdrawal
study skills

All of these tapes were requested between one-hundred and six-hundred times each during our first six months of operation. Assuming that students at Penn State are no different from students at other colleges and universities, I would recommend that if you are planning a TIPS type project, you would do well to develop tapes dealing with these academic topics before tapes describing library periodicals or class meeting periods.

Non-academic Information

Using TIPS as a model, and provided that you offer similar services, your high priority non-academic tapes could be generated from this list:

athletic facilities
food stamps
preparing for a job interview
financial aid programs
dieting
alcohol
drugs
anxiety
common cold
contact lenses
smoking
headaches
mononucleosis
physical fitness
seeing spots and floaters
apartments
becoming relaxed
mental health services
suicide
transportation

Most of these tapes were prepared by appropriate Penn State Offices; however some of the medical and health tapes were adaptations of Tel-Med tapes and brochures obtained from the State Health Department.

Special Topics

The only tapes not included in the academic and non-academic lists are our weather report and the campus art line. The number of requests for these tapes is so great that we always isolate them when we discuss TIPS and as I have already mentioned, we have added automatic answering machines to handle the volume. By themselves these two services accounted for more than 26,000 calls in one thirty-six week period. On an average, TIPS receives 643 calls per week for the weather tape and 110 calls per week for the arts line. The arts line is updated on a daily and weekly schedule, but the weather is updated four times daily. If you are considering including either of these services in your system, be prepared to dedicate one or two phone lines and plan from the very beginning to handle calls through automatic answering.

New Directions: Audio Course Selector

As long as TIPS is perceived as a beneficial service to students, and provided that it continues to receive funding, we plan to let it grow accordingly. As I noted, one growth area could be in the direction of including student organizations. Another potential area is agricultural extension information.

One new area that we are currently developing and one that has the potential for doubling, if not tripling, our current library (360 tapes) is a project that we call Course Selector. Course Selector has existed in print form at Penn State since 1973. It is simply a collection of course descriptions that have been prepared by faculty for students and advisers who need more specific information about courses than appears in the University Catalog. Typically, a Course Selector description contains: the name of the course instructor, indicates whether or not teaching assistants are used, lists terms (fall, winter, spring) in which the course is taught, instructor's office hours, titles of texts, cost of materials, number of exams, papers or projects, and a brief discussion of grading philosophy.

The printed version of Course Selector may include descriptions of 400-800 courses. If the TIPS version of Course Selector is successful it may well require an advertising brochure of its own and create a need to double our cassette storage space.

Since we are not sure that an audio Course Selector will be as successful as a printed version, we are listing only forty-five course descriptions in our upcoming brochure. We invited each of our colleges to identify courses that would satisfy general requirements for majors or prospective majors, and we developed the content of tapes from material in the printed Course Selector. A sampling of course titles includes:

classics
anthropology
comparative literature
economics
English
speech
labor studies
Army
German
history
journalism
philosophy
political science
Navy
air
music
educational psychology
religious studies
psychology
Russian
counselor education
nutrition
physical education
industrial arts
library studies
health planning
food service

We expect several advantages to accrue from an audio Course Selector. First, print is usually out-of-date by the time it appears. An audio Course Selector allows us to maintain current information simply by recording over a tape. Second, the cost of paper and printing has risen steadily over the last five years to the point where a printed Course Selector of 25 - 30,000 copies costs approximately three thousand dollars. Since the project is usually sponsored by student groups there is potential for significant savings for these student groups.

Compared to printing and paper costs, an audio Course Selector would cost virtually nothing. Initial expense (purchase of tapes) could amount to $500 - $600, but no additional purchases would be required for subsequent tapings. Again, the simplicity and economy of this project fits the TIPS basic guidelines that were established by our committee.

Balance and Growth

Although those of us involved in TIPS believe our choice of content reflects student, faculty, staff, and community needs, the ultimate success of TIPS will be determined by the volume of calls we receive and the usefulness of the information. One and one-half years may seem to be a sufficient amount of time for evaluating TIPS, but in reality it is not. The flood of calls that occurred in the early days of operation has tapered off. In a slow term like summer, traffic is minimal. At this point we are looking carefully at our second year of operation as a better guidepost than our first year. Because we keep an accurate log of every call received on the TIPS lines, we expect to be able to chart maximum and minimum traffic over an entire academic year. Until we generate that chart, we won't eliminate any tape from the system. Several of our tapes were requested only two or three times during the first six months of operation, but this low frequency of request may reflect a mis-categorizing of the tape or lack of advertising rather than disinterest on the part of callers.

At the present moment we are satisfied with our early efforts and look forward to the new kinds of TIPS tapes that are being planned. Without a doubt, there is a tendency for an information system like TIPS to become a juggernaut; however, we have attempted to restrict the growth of TIPS during this developmental stage.

None of us believes that TIPS will shrink and if our first one and one-half years can be taken as the measure of growth for TIPS, we hope that Penn State may some day be providing a broad telephone-based information service for the Commonwealth of Pennsylvania.

INTAC/753-0414
INFORMATION TAPE ACCESS CENTER
"A telephone communication experience"

Rosemarie Ostberg, Acting Coordinator
Campus Assistance Center
Northern Illinois University

At Northern Illinois University (approximately 25,000 students), we have a Campus Assistance Center and a dial access system called INTAC - Information Tape Access Center. Both of these are integral parts of our information system for students, faculty, staff and the Northern Illinois community. These two not only share a joint physical space on the main floor of the student union, the Holmes Student Center, but they share a joint history as well. The information office and the dial access center are mutually dependent upon each other for the effective distribution of information on Northern's campus.

Students at a reasonably large institution find themselves in need of many types of information not supplied in the classroom, in their textbooks or in the library. They have questions about the rules and regulations of the university, university procedures, cultural, social and honorary organizations, careers, transportation, the community at large and personal questions about their physical and mental well-being. The Campus Assistance Center and INTAC were created to respond to this need and to serve as a central location where information is our only business.

This paper will describe the general background at Northern, the history and planning of the dial access center, its technical set-up, equipment and procedures, and finally the content, writing, recording and updating of the dial access tapes.

Planning Considerations

General Background

Northern Illinois University grew from a Normal School, to a college, and finally to a University in a little over a decade between the fifties and sixties. By 1971 this University had more than 20,000 students and a large number of supporting services in addition to the academic organization of the university. These support services, called Personnel Services, were widely scattered on the campus. Because of the rapid rise in both population and services, many of the students were largely unaware of the numerous offices they could go to for advice, counseling, and information. The students often became "lost" in the university environment and resentful of this large organization which seemed cold and unfriendly even though "help" on a variety of subjects was in reality near at hand.

The community of DeKalb, where Northern is located, is a Midwest town with many lively organizations and activities for both students and townspeople. However, DeKalb had no central information center where students, faculty, and staff could inquire about town events. It became clear to the administration at Northern that a central location for information was important and necessary to provide students with accurate information about the university community, the larger community of DeKalb and the northern part of the State of Illinois.

Office of Student Assistance & Information

In December 1971, the Student Personnel Services Committee was charged by the President of Northern Illinois University to study the area of Student Personnel Services with the purpose of recommending appropriate revision in the organization of that division. In March 1972, four months later, the committee filed its final report recommending, among other things, that an Office of Student Assistance and Information should be created with the dual role of 1) assistance and 2) information.

> It should provide total information including interpretation of university regulations and policies, and referral so a student may have questions answered by one or at the most two contacts. In addition, it

> could be a place where a student could "air a problem." ---The office should be able to cope with emergencies, make referrals, effect communication with agencies both internal and external to the university.[1]

The Office of Student Assistance and Information was opened in the fall of 1972 on the second floor of the Holmes Student Center. It was staffed with two professional staff members and a secretary. That first year it was very active and had many visitors and phone calls. They established information booths and tables on the first floor, compiled a student handbook, initiated a student Encounter group and had many open forums and rap sessions for students with members of the administrative staff, personnel services staff and student leaders. They sent out publicity flyers and questionaires and in general fulfilled their dual role of assistance and information.

Dial Access Background

At this same time, fall 1972, the article A New Direction for Student Affairs on Large Campuses: The Information and Referral Service by Earl Nolting and Steven Saffian appeared in the October issue of the NASPA Journal. This article mentioned the University of Wisconsin-Madison's dial access system called DIAL. They said in part:

> Dial Access will not replace the counselor-student contact. There are however, many distinct policy and advising areas that lend themselves to the short taped format. The purpose of Dial Access is not to substitute another mechanical device for an inter-personal relationship, but to extend the capacity for the advisor and the University to communicate needed information to students and staff quickly and efficiently. This information presented via Dial Access should save valuable staff time and provide the student with basic factual groundwork on which to ask his own personal questions.[2]

The Office of Student Assistance realized that many questions were repetitive and that there were areas in which the students needed "basic factual" information. During the year 1972-73, this office obtained information about other dial access systems, including the University of Kentucky-NEXUS, Pennsylvania State University's Listening-Learning Service and the University of Wisconsin-Madison - DIAL. The staff made two trips to the University of Wisconsin at Madison and were very impressed with that system and its suitability to Northern's clientele.

In September of 1973, the professional staff of the Student Assistance Office discussed the possibility of expanding their assistance to students with the Vice-President for Student Affairs (new name for Personnel Services). They suggested a dial access system to produce "canned" (irreverent word) information on audio tape similar to the program DIAL at the University of Wisconsin-Madison. The Assistance Office was given the responsibility of developing a similar system.

A proposal was made to the Division of Student Affairs Department Heads concerning the Digital Information Access Line. This proposal said:

> Through this system we will attempt to provide information on such topics as academic rules and regulations, conduct rules and regulations, curricular information, draft information, drug information, health and student employment information.[3]

A list of topics and tape names was submitted with this proposal. The Department Heads of Student Affairs did endorse this proposal and also suggested other ideas for tapes. The Student Assistance Office also asked the Deans of the Colleges, Department Chairmen and student leaders for their advice and ideas on tapes for the new system.

Committments of Support

No extra space was necessary as the new dial-access system was to be housed in the Student Assistance and Information Office on the second floor of the Holmes Student Center. The staff of the Student Assistance Center was to man the dial access center the next summer, but there was only one professional staff member at this time and three students and this was deemed insufficient to run both the Assistance Center and the dial access system. Plans were made to increase the number of students.

The original estimate of the essential equipment was $1158. This included four Playback Recorders, an equipment console and table, four Storage Carousels and some

contractual services for transformers, wires, plugs, etc. This did not, of course, include the installation which was to be done by Communication Services for no extra charge. The office was awarded $1500 in Equipment and $1000 for Contractual Services in December 1973. This basically ended the planning stage of this operation and the new INTAC system as it was to be called, was scheduled for the summer of 1974.

Technical Set-Up and Equipment

Technical Set-Up

In January 1974, the Technical Services Office of the Division of Communications Services worked out preliminary arrangements with the Foreign Language Laboratory for using their recording facilities. Since there were to be quite a few tapes to be recorded at one time to initiate this system, a regular recording schedule was worked out with the Language Laboratory. Technical Services was also to furnish the studio engineer at no cost to the Student Assistance Office, who would record the tapes on a reel-to-reel master and then duplicate each on two cassettes. The reel-to-reel master would be retained by Technical Services and the two cassettes would be indexed, numbered and labeled by the Student Assistance Office. One cassette was to be played when requested and the other was a back-up in case the first was lost or malfunctioned. Technical Services charged two dollars and fifty cents for each master and two cassette copies.

The Technical Services Office was instructed to provide miscellaneous cable, connectors, impedence matching transformers, etc. for the installation of three cassette recorders within the new equipment cabinet. The cost for this in the winter months of 1974 was fifty-six dollars. They also agreed to maintain the Playback Decks at no charge to the Student Assistance Center. Their repairmen were paid a standard rate per hour by the University and the Assistance Center would only be charged for the parts used to repair them.

Technical Services also made arrangements with the Telephone Services Office to install three lines with rotational numbers and associated recorder-couplers with keying equipment in the Student Assistance Office. The cost for the installation charge was forty dollars and the three additional lines cost the Student Assistance Office forty-two dollars per month. The three rotational lines made it possible to pick up a tape on another line and Playback Deck if the first line and deck were busy. In the off-season of the year, from February to August, the Assistance Center could cut off the last line and deck, thereby saving money.

In summary, the scripts would be recorded at the Foreign Language Laboratory with an engineer from Technical Services who would make a master and two cassettes for two dollars and fifty cents. (This price went down in July 1974 to two dollars because the engineer loaded his own reel-to-reel tapes rather than purchasing pre-determined lengths. This is what it still costs us in 1979.) Technical Services would install the decks and later maintain them for no charge. Telephones were hooked up to the decks and the total charge of this part of the operational installation was ninety-six dollars.

Equipment

The most important pieces of equipment were the Playback Decks from the Midwest Visual Equipment Company at 6500 North Hamlin Avenue in Chicago. They were: Wollensak Model 2505-AV, Frequency response 50 to 10000 Hz, Wow and flutter less than 0.25%, Signal to noise ratio-greater than 46 dB, Built-in speaker 4" x 8" eliptical, tape speed 1-7/8 ips, 13-1/2 x 9-1/16 x 4-7/8, Standard phone jacks, 3-wire grounded power cord with adapter, 120 VAC 60 Hz.

An operator was necessary to select the tape and to start it, but the Playback Deck had an automatic shut-off when the tape was finished. Then the operator could remove the tape at some later time. Four decks were ordered at a cost of one hundred and fifty dollars making a total of six hundred dollars. Three were to be put into use and the fourth was to be used as a back-up in case of a malfunction in one of the others.

These three decks were placed in an equipment cabinet especially designed to hold them so that they would be seated at an angle to the floor. This made them very easy to operate as they were neither bolt upright, nor flat on a surface, but rather canted at an angle away from the operator. The cabinet was laminated with formica resembling wood and cost two hundred ninety-eight dollars to build.

A table was ordered to fit under the canted cabinet with the tape decks for miscellaneous tapes that were being played and for the INTAC log used for logging the tapes which were played. It was a fixed leg table 30" x 60" x 29" H with a brushed chrome frame and a walnut laminate top. It was from the Hamilton Designer Series, Model #2F305 and was purchased from the Gilbert A. Force

Company at 7220 West Touhy in Chicago, Illinois for ninety-nine dollars.

Eight Doxis Cassette Carousels Model DSC-25 were purchased to hold the cassette tapes at a cost of ninety dollars. Some blank tapes and some cassette boxes were also purchased at the same time. The total cost of these supplies was one hundred fifteen dollars.

In summary, four Playback Decks, one fixed table, eight Cassette Carousels, some blank tapes and cassette boxes were purchased and an equipment cabinet to hold the tapes was built for a total cost of eleven hundred and twelve dollars. This was all the equipment which was purchased for the dial access system.

Since then, we have made only two changes which affect the dial access system. We moved the information distribution center and dial access down to the main floor of the Student Union. At that time an information counter was built which included the equipment cabinet and its three decks. Also the Storage Carousels were unsatisfactory, so first four and then two more cassette cabinets were purchased to replace them. They are Stacking Cabinets for Cassettes sold by the Display Media Incorporated at 120 Laura Drive in Addison, Illinois. The model number is 5000 Code A and they each hold seventy cassettes in plastic boxes stored on individual shelves. These are walnut woodgrain vinyl covered tempered hardboard and are 12-1/2 H x 231/2 W x 9-1/2 D and now cost approximately seventy-three dollars. These are the only changes in the technical set-up and equipment of the dial access center since the summer of 1974.

The drawing on the next page illustrates the three decks in their equipment cabinets as well as the stacking cabinets for storing the tapes.

Dial Access Tapes

Dial Access - Summer 1974

After all this planning, purchasing, and recording in the spring, forty tapes were ready to be played in time for Summer School 1974. A news release issued from the Office of Information and Public Affairs at Northern had this to say:

June 20, 1974

DEKALB--Information on summer activities and recreation, the registration process, renamed campus buildings and more than 35 other topics is now available by telephone through the new Northern Illinois University Information Tape Access Center (INTAC), operated through the Office of Student Assistance and Information.

INTAC is a telephone communication service which provides a collection of information tapes prepared on a number of specific topics. A person in need of information can call a central number and ask for a specific tape by its code number. - - -

(A description of procedure)

INTAC will begin operating the first day of summer school, June 24, and will continue throughout the summer from 8 a.m. to 5 p.m. Monday through Friday. In the fall, the system will operate from 8 a.m. to midnight, seven days a week.

Some 40 tapes are now available on university programs and centers, various aspects of the registration process, financial aids, parking, check cashing, scholarships, legal information, personal protection, travel, volunteer organizations, health, student services and organizations and other topics.- -

(A history of the system)

Other university offices and student organizations wanting to submit tapes can do so at the Office of Student Assistance and Information, or can have INTAC set up an appointment for them with Audio Tape Duplication to voice their own tapes. Organizations wishing to have tapes made can do so free of charge, but they will be responsible for keeping their own tapes accurate and up to date.

Forms explaining the system and tapes available will be distributed at summer school registration and in the summer dorm, and are available in the Office of Student Assistance and Information on the second floor of the Holmes Student Center. INTAC hopes to have at least 100 tapes in operation by fall, and plans to add new tapes regularly.[4]

A brochure was distributed to the summer school students at the dormitories and at various places on the campus. The little logo on the outside of the brochure and the first list of tapes is reproduced after the illustration.

Cassette Storage - Top and Right
of tape decks.

Programs and Centers

100 Campus Assistance Center
109 Lorado Taft Field Campus
110 Honors Program
111 Reading Improvement and Study Skills Program
112 ROTC Program

Registration Process

161 Activity Cards and ID Cards
162 Declaration of Major and Minor
163 Student-at-Large Status

Records

171 Incompletes
172 What to Do About Transcripts
173 Add-Drop Procedures
174 Withdrawal from the University
175 Auditing a Course
176 Transfering Credit from Another University
180 Academic Probation

The University Community

202 Check Cashing
203 Student Parking on Campus
205 Alumni Association
206 Guide to Renamed Buildings
209 University Calendar: Summer '74

Student Services

220 Ombudsman
221 Veteran's Assistance
222 Student Activities Center

Student Organizations

236 Student Association
237 Student Stores of DeKalb

Social and Recreational Activities

251 Summer Activities
252 Summer Recreation

Financial Aids

301 A Guide to Financial Aids

Scholarships

311 ROTC Scholarships

Legal Information

325 How to Get a Passport

Protection

331 What to Do if Raped
337 Protect Your Bicycle
338 Protect Your Valuables
339 Tornado Safety

Travel

361 Greyhound Bus Schedule

Volunteer Organizations

371 DeKalb Learning Exchange

Health

400 Student Health Insurance

Cancer

461 Cancer: The Danger Signals
462 Uterine Cancer

General Medicine

471 Heart Attack Symptoms

The first summer's tapes responded to a need to supply general information on the most asked questions at the Office of Student Assistance. These tapes were not designed to "substitute a mechanical device for an inter-personal relationship"[5] but simply to answer some very basic questions for students.

Content and Number of Tapes

As had been advertised in the news release, in the fall there were almost one hundred tapes. Some new areas had been added including college programs, the Board of Regents, (since Northern is a regency university), study helps, employment, housing, community service organizations, drugs, and special INTAC services, i.e. Your Horoscope, Articles for Sale and New INTAC Tapes. Also many of the existing categories had been greatly enlarged.

In the fall of 1975 there were over one hundred and thirty tapes. Each of the original categories chosen was enlarged a bit and there were two new categories - Contraceptives and Consumerism. In 1976, the tapes produced by the Assistance Office increased to one hundred and fifty eight and also there were additional tapes developed by the Career Planning and Placement Center on majors at the University.

In October of 1976 a news release about these tapes was issued by the Office of Information reading in part:

DE KALB --High school students faced with big decisions over college and career choices often don't know where to turn for sound academic advice. Counselors and college catalogs don't always provide all the information a student needs to chart his future course.

Northern Illinois University's Career Planning and Placement Office has developed 48 tapes that, for the cost of a telephone call, provide all the current information available about NIU's major programs and general education requirements.

By calling NIU's telephone-access tape library (815-753-0414), a student can request the tape of whatever major he's interested in. Some programs, like those in computer science, are undergoing changes so tapes aren't ready at this time. - - -

Besides telling the prospective student what courses are needed to complete the major, the tapes offer information about job placement and the current salaries offered in the field.

The tapes, running six to ten minutes each, also explain general education requirements and the system of earning hours toward graduation.[6]

This career counseling tape series was called Discover: An Information System on Academic Majors at N.I.U.

In 1978, a new category on personal counseling was added. This series was purchased from the University of Texas Press, Attn: Delton Simmons - Counseline, P.O. Box 7819, Austin, Texas 78712. The brochure for 1978-79 called the series Counseline: An Information System on Personal Concerns. This brought the number of tapes for this year just a bit over three hundred.

Three hundred tapes is about the correct number for Northern's purpose. Undoubtedly many more tapes could be encouraged, however, the brochure is just the right size to be pinned to a bulletin board and if more tapes are added it will become unwieldy.

Writing and Recording

When the dial access system first started, most of the tapes were written by the Student Assistance Office. Over the years it was decided that if the sponsoring college, department, administrative office or organization wrote the tapes themselves there would be less chance of error. This decision also reduced the work load of the Assistance Office staff.

Today the office will help any group who wishes to write a new tape by showing them scripts from similar tapes and giving them some idea of the standard format. The sponsoring organization also types the scripts in triplicate on script forms which the Assistance Center furnishes to them. One script is held by the studio engineer, one filed by the Assistance Office and after recording, one is sent back to the originating office. Generally the scripts are three to five minutes long, but there are some that are only one minute in length. At the other extreme, there was a

tape called Dial-A-Job which lasted over a half an hour. It finally became so lengthy that the Career Planning and Placement Office, its sponsor, put the information into a newsletter.

At the end of each script, the sponsoring office puts down their address and/or telephone number as a referral for more questions and also adds, "Thank you for calling INTAC. Call back for more information or further assistance."

The tapes are recorded at the Foreign Language Laboratory during the summer months on a regular schedule. About seven or eight are recorded at each recording session. The studio engineer is furnished by the Communication Services Division and makes, as before, one reel master and two cassettes for two dollars. Since we have many used tapes, he sometimes uses them and then charges only one dollar for the set. Each cassette is recorded on both sides which makes it very simple for the operator. The Assistance Office (now called the Campus Assistance Center) indexes, labels and numbers the cassettes and then informs the Technical Services office so that they can number their master reel. Should the Center lose both tapes for each script, they can be duplicated from the master. Sometimes the tapes become worn out, or damaged and they also need to be dubbed from the master reel. The master reel avoids the necessity of rerecording.

The recording is done by the professional staff and students at the center, by students in the Speech Communications classes, or by anyone with a clear, firm and friendly voice who can read well. There is a pamphlet designed for those who would attempt the writing and recording of scripts. The following are some of its instructions:

The Tape Making Process

Preparation

Material to be taped should be in written form so that content can be verified and material updated when necessary.
After the material has been recorded, the originating office will receive a Xerox copy of the recorded script.
Two and a half pages of copy (double spaced) will run about 5 minutes. This is roughly equal to a delivery rate of about 120 words per minute of tape.
Focus on only one subject per tape, and deal only with the subject of the tape.
Keep the information brief and the language simple. Use simple sentences. Avoid compound-complex constructions. Use short sentences. Use only words that are in common usage.
Exclude all extraneous information and phrasing.
Use an informal introduction and close with a referral. Keep the number of referrals to an absolute minimum. Repeat telephone numbers and/or addresses. For example, ". . . at 753-1157. That's 753-1157."
A good formula to follow is: Tell them what you are going to tell them. Tell them. Tell them what you told them. In more formal terms, introduce the usjbect; present the content; summarize.
Tapes should not be longer than 4 or 5 minutes, shorter if possible. - - -

The Presenter

The Presenter should be someone who is familiar with the material to be taped.
The presenter should have a pleasant voice and be comfortable with a microphone.
The material should be presented slowly but in a natural rhythm. It should not appear that it is being read.
Give some thought to the possibility that your listener may be taking notes.
Repeat names or telephone numbers that you anticipate your listener will want to use.
The Campus Assistance Center staff usually narrates the script, but if anyone in your office would like to do so it is indeed possible.

Each year new tapes are recorded and old tapes are updated and rerecorded, and yet each year almost two-thirds of the tapes remain the same and need no updating. Needless to say, they are not the same tapes.

Updating and Recording

Each year in April and May, the Assistance Center sends out letters to all of its sponsors requesting that they check their scripts for the current accuracy of their tapes and to ask if they wish to sponsor any new tapes. Other offices are contacted by letter to see if they are interested in sponsoring a tape. An example of an office that expanded its tape coverage with new tapes was the Registration Office. At first they had only one tape on Mail Registration, and now they have five on this subject, e.g. Mail Registration for New and Reentering Graduate Students. Many tapes remain the same year after year. Most of the sponsors respond by late spring, and the summer is spent recording the new and updated

tapes. Some tapes, especially on student organizations, cannot be recorded until early fall. Each sponsor must respond by sending in a new script, confirming the accuracy of the old script or indicating their desire for a tape that must wait until fall to be made. Those who respond are then listed in the new brochure which is printed in the summer.

There are some tapes that are added after the brochures have been printed, however the sponsors are then informed that they must advertise the existence of this tape in the daily newspaper or with posters or flyers. When tapes are made during the year they are made on a tape recorder in the Assistance Office instead of scheduling the studio and engineer for only one tape.

As was mentioned under the section on Content and Number, Northern is not seeking at this time to enlarge its tape library. In fact, we often discard tapes which seem to have little response and/or seem to have served their purpose. As a result, there is room for new tapes which departments may wish to sponsor or which the Assistance Office feels should be recorded. Since the Dial Access Center is closely associated with the Information Counter and both are served by a single operator, it is often possible to determine trends and currents on the campus which would benefit from having a tape giving basic information to students. In this case, either a sponsor is chosen or the Assistance Center writes the tape in house.

Logging and Responses

An INTAC log is kept so that the number of phone calls for each tape is recorded. As a result, there is a reasonably accurate count of how many INTAC calls are received and also which tapes have been called. ("Reasonably accurate" because when students are busy they often forget to record the calls.)

The number of calls each year has been approximately five thousand. The number counted decreased in the last year, 1977-78, and it is expected to rise above the five thousand level in 1978-79. One of the reasons for the rise is a more accurate count and another is that there has been more publicity about the tapes in this last year.

This logging not only gives us a total number of calls for the academic year, but also indicates which tapes are not being used. It also indicates trends in the phone calls to the INTAC center. It has been found that certain tapes are called at the end of the week, e.g. Holmes Center Cinema; certain tapes are called in connection with the school year, e.g. How to Withdraw from a Class and some tapes are called seasonally, e.g. Picnic Grounds.

Staffing

At the present time, the Campus Assistance Center is a part of the Orientation and Assistance Office under the Vice President for Student Affairs. It is headed by a professional staff member, the Coordinator for the Campus Assistance Center.

There was an Information Services Supervisor (Civil Service) attached to this office, but that position is being temporarily filled by a Graduate Assistant. The Information Counter and the Dial Access Center itself is manned by twelve students and one Graduate Assistant. Of these twelve students seven are Work-Study students and five are regular student help. They are all Community Service Officers I and II. The Information Counter is open from 8 a.m. to 10 p.m. Monday through Friday, and noon to 10 p.m. on Saturday and Sunday during the academic year.

The Future and Comments

As was mentioned earlier, there are no plans to increase the number of tapes given the fact that the tapes in the Dial Access system at Northern are intended primarily for the students. Since this is the case, an increase in number would make it difficult for the students to handle the brochure so that it would be readily accessible.

As for the content of the tapes, it is clear that more weeding out of the little used and/or less important tapes is necessary and the acquisition of new tapes to replace them should be encouraged. Perhaps more student organization tapes or tapes from community organizations that are particularly interesting to the students. Also the rewriting of many of the tapes might improve and change their style so that they would be fresher and more current even if the content was the same.

Publicity has always been a problem because of lack of money and the expense of buying a large ad in the college daily. Posters and flyers, which are inexpensive, should be used more extensively. Also ads, perhaps in the Public Service category, should

be taken in the newspaper. There are two radio stations at Northern and no radio ads have been used for at least three years. Therefore a publicity campaign must be started to keep the INTAC name continually in the spotlight so that more students will use this system more times.

It is clear that since the Dial Access System is a service, the more it is used the more beneficial it can be. However, in trying to increase its use it must be remembered that primarily it serves the students by its existence. That is to say, the Dial Access System and its tape library are like a library with books. They are there for the students use even though some books are not taken out for many years. The tape library at Northern serves the students by being there in case they should want to use it. This is one situation where Northern says, "The information buck stops here."

INTAC/753-0414

INTAC is a telephone communication service which provides a collection of information tapes prepared on a number of specific topics. (Examples: "What to Do About Transcripts," "Financial Aid Information," "Recreational Sports," and so on.) When you need information about a particular topic, call INTAC and ask for the tape by its code number. The INTAC operator will then play the tape directly over your telephone. The end of the tape will refer you to the appropriate person or office for further information. The following directory lists tape topics currently available. However, more tapes will be added in the future. Your suggestions and comments are most welcome.

To use INTAC:

1. Select the tape you want to hear.
2. Call INTAC at 753-0414.
3. Ask for the tape by number.

100 Board of Regents

Undergraduate Academic Advisement

101 General Undergraduate Academic Advising
102 Academic Advising - Liberal Arts and Sciences
103 Academic Advising - Visual and Performing Arts
104 Academic Advising - Professional Studies
105 Academic Advising - Elementary Education

College of Continuing Education

106 Continuing Education Outreach I
107 Continuing Education Outreach II
108 Community Services Office
109 Illinois Council on Economic Education

College of Education

117 Teacher Certification: Professional Education Requirements
118 Student Education Association: Helping Teachers Teach
119 Get Your Feet Wet With Education 200
120 How to Apply for Student Teaching

College of Liberal Arts and Sciences

128 Communication Skills Program
129 Peer Tutoring Program
130 Pre-Professional Program
131 Interdisciplinary Study Program
132 Bachelor of General Studies Degree
133 Pre-Engineering Program

The Graduate School

140 Graduate School Admissions and Procedures
141 Graduate Assistantships and Fellowships

General Programs and Centers

147 Educational Materials Center
148 Counseling Services at NIU
149 Art, Photography, Motion Picture and Television Services
150 NIU Film Library
151 Educational Films From Off-Campus Sources
152 Office for Economic Education
153 Lorado Taft Field Campus
154 Honors Program
155 ROTC Program
156 General Information for International Students
157 Minority Studies
158 Upward Bound

Admissions, Registration and Records

171 Student ID Cards
172 Declaration of Major and Minor
173 Student at Large Status
174 Nondegree Student Status
175 Pass-Fail Option
176 Tuition and Fees
177 How to Drop or Withdraw from a Class
178 Admission and Application Procedures
179 Refund Policy
180 State and University Requirements for Graduation
181 Incompletes
182 What to do About Transcripts
183 Add-Drop Procedures
184 Withdrawal from the University
185 Auditing a Course
186 Transfering Credit from Another University

187 Mail Registration General Information
188 Mail Registration for Reentering Undergraduate Students
189 Mail Registration for New and Reentering Students at Large
190 Mail Registration for New and Reentering Graduate Students
191 Mail Registration for Intersession and Summer 1979
192 Mail Registration Strategies
193 How Computer Course Scheduling Works
194 Academic Probation
195 Release of Student Records
196 Proficiency Examinations

Student Services

215 Campus Assistance Center
216 Veteran's Assistance
217 Student Activities Center
218 Ombudsman
219 Legal Assistance Office
220 Tutoring Services
221 Center for Student Development
222 Test Information and Dates
223 Constitution Test

Career Planning and Placement

230 Job Vacancies for Graduates and Alumni
231 Career Planning and Placement Center
232 On Campus Interview Sign-Up Procedures
233 Workshops Offered by Career Planning and Placement
234 Why Establish Credentials?
235 Alumni Resume Service

Housing

240 Release from Residence Hall Contract
241 Residence Hall - Snack Bars
242 Off-Campus - Housing
243 Foreign Language Dormitories

Employment

247 Student Employment

Financial Aids

250 Financial Aid Information
251 ROTC Scholarships

Student Legal Information

260 Know Your Rights
261 Illinois Residence Requirements
262 Helpful Hints on Traffic Tickets
263 Judicial Office

Protection

270 Campus Security
271 What to Do if Raped
272 Dangers of Gasoline
273 Carbon Monoxide Poisoning
274 Protect Your Bicycle
275 Protect Your Valuables
276 Tornado Safety

Study Help

290 Effective Study Habits

Social and Recreational Activities

297 Hours and Use of Recreational Facilities
298 Recreational Sports
299 Outdoor Equipment Check-Out
300 Handball/Racquetball Court Reservations
301 Faculty, Staff, Students: Tickets for Athletic Events
302 Picnic Grounds
303 Homecoming Information
304 Holmes Center Cinema
305 Cine Club

University Community

315 Check Cashing
316 Parking on Campus
317 Alumni Association
318 Psychology Clinic
319 Affirmative Action
320 Title IX
321 Non-Discrimination on the Basis of Handicap
322 Women's Study Center
323 NIU Bookstore
324 Volunteer Bureau
325 Family Center-Counseling
326 Corn Country Women's Almanac
327 Religious Activities at NIU
328 WNIU

Councils, Boards and Committees

330 Operating Staff Council Minutes

331 University Committees - Operating Staff Representatives
332 Special Topics - OSC

Student Organizations

335 Student Association
336 Panhellenic Council
337 Inter-Fraternity Council
338 NIU Recycling Center
339 Transcendental Meditation Society
340 Black Student Union
341 Outdoor Club
342 P.A.C.C. - Minorities - Professional and Creative Communication
343 American Society of Personnel Administrators
344 Baha'i
345 NIU Flying Huskies
346 College Student Advisory Committee
347 Gay Community

Community Service Organizations

360 DeKalb Learning Exchange
361 Day Care Centers
362 Nursery Centers and Part-Time Child Care
363 Campus Child Care
364 Services for Pre-School Handicapped Children
365 Food Stamp Program
366 DeKalb Voluntary Action Center
367 Mother Sunshine
368 DeKalb County Health Department: Family Planning Program
369 Pregnancy Counseling Service

Travel

380 Greyhound Bus Information
381 Huskie Bus Line Information
382 How To Get a Passport
383 ComPool - The Commuter Auto Pool

Consumerism

390 Consumer Product Safety Act

University Health Service

400 Student Health Insurance
401 University Health Services
402 Speech and Hearing Clinic
403 Gynecology Clinic
404 Pregnancy Evaluation
405 Mental Health Clinic

Food and Health

411 Basic Nutrition

Drugs

451 Drugs and the Law
452 Alcoholism

Cancer

461 Cancer - The Danger Signals
462 Uterine Cancer

General Medicine

470 Epilepsy
471 Heart Attack Symptoms
472 Fever
473 Hepatitis
474 Treating Sprains and Strains
475 Treating Burns
476 Body Lice
477 Infectious Mononucleosis
478 The Common Cold
479 Vaginal Infections
480 Choosing a Contraceptive Method
481 The Morning After Pill

VD

492 DeKalb County Health Department: VD Counseling

Computing Services Department: Short Courses

520 Introduction to Computer Short Courses - How to Register
521 Overview Courses
522 Statistical Package Courses
523 Systems Courses
524 Teleprocessing Courses
525 Welcome to NIU Computing Services

COUNSELINE: AN INFORMATION SYSTEM ON PERSONAL CONCERNS

700 Friendship Building

701 Types of Intimacy
702 Physical Intimacy
703 Fighting Constructively
704 Expressing Negative Thoughts and Feelings
705 Dealing with Constructive Criticism
706 Dealing with Anger
707 Understanding Jealousy and How to Deal With It
708 How to Say "NO"
709 Becoming Open to Others
710 Dating Skills
711 Female Homosexuality
712 Male Homosexuality
713 Dealing with Frigidity
714 Dealing with Impotency
715 Timing Problems in Male Sexuality
716 Anxiety and Possible Ways to Cope With It
717 How to Deal with Loneliness
718 How to Handle Fears
719 Increasing Self-Awareness
720 Building Self-Esteem and Confidence
721 The Value and Use of Self-Talk
722 Relaxation Exercises
723 Coping with Stress
724 Female Sex Role - Changes and Stresses
725 Male Sex Role - Changes and Stresses
726 Learning to Accept Yourself
727 What is Therapy and How to Use It
728 Infatuation or Love?
729 Things to Consider in Looking for a Mate
730 Positive Communication and Sexual Fulfillment in Marriage
731 Fair Fighting in Marriage
732 Common Marital Problems and How to Handle Them
733 Preplanning for Children
734 Parenting Skills
735 Divorce - It Could Happen to Us
736 Dealing with the Realities of Divorce
737 The Death of a Marriage
738 How to Cope with a Broken Relationship
739 Death and Dying
740 Understanding Grief
741 Helping a Friend
742 Early Signs of an Alcohol Problem
743 Responsible Decisions about Drinking
744 Burglary Prevention
745 Retirement
746 Self-Assertiveness
747 Contracts in Intimate Relationships
748 Examples of Contract Building
749 What is Depression?
750 How to Deal with Depression
751 Depression as a Life Style
752 Becoming Independent from Parents
753 Dealing with Alcoholic Parents
754 Suicidal Crisis
755 Recognizing Suicidal Potential in Others
756 Helping Someone in a Suicidal Crisis

DISCOVER: AN INFORMATION SYSTEM ON ACADEMIC MAJORS AT N.I.U.

The College of Professional Studies

801 Major in Communication Disorders
802 Major in Child Development and Family Relations (Dept. of Home Economics)
803 Major in Home Economics Education
804 Major in Dietetics, Nutrition, and Food Science (Dept. of Home Economics)
805 Major in Textiles and Clothing (Dept. of Home Economics)
806 Major in Industry and Technology Education
807 Major in Industry and Technology with an Emphasis in Electrical Engineering Technology
808 Major in Industry and Technology with an Emphasis in Graphic Arts Technology
809 Major in Industry and Technology with an Emphasis in Numerical Control Technology
810 Major in Industry and Technology with an Emphasis in Industrial Supervision
811 Major in Industry and Technology with an Emphasis in Industrial Safety or Traffic Safety
812 Major in Industry and Technology with an Emphasis in Industrial Arts Therapy
813 Library Science Program
814 Major in Nursing
815 Pre-Physical Therapy Program
816 Major in Medical Technology

The College of Liberal Arts and Sciences

819 Major in Anthropology
820 Major in Biology
821 Major in Chemistry
822 Major in Computer Science
823 Major in Economics
824 Major in English
825 Major in Foreign Language
826 Major in Geology
827 Major in Geography
828 Major in Geography with an Emphasis in Meteorology
829 Major in History
830 Major in Journalism
831 Major in Mathematical Sciences
832 Major in Philosophy
833 Major in Physics
834 Major in Political Science
835 Preprofessional Studies
836 Major in Psychology
837 Major in Social Sciences
838 Major in Sociology
839 Major in Speech Communication
840 Bachelor of General Studies and Contract Major

The College of Visual and Performing Arts

843 Major in Art
844 Major in Art Education
845 Major in Art History
846 Major in Studio Art in the Area of Design
847 Major in Studio Art in the Area of Crafts
848 Major in Studio Art in the Area of Painting
849 Major in Music
850 Major in Music in the Area of Performance
851 Major in Music Education
852 Major in Music in the Area of Theory and Composition
853 Major in Music in the Area of History and Literature
854 Major in Theatre Arts

The College of Education

855 Major in Elementary Education
856 Major in Physical Education
858 Certification in Secondary Education
859 Major in Special Education
860 Major in Special Education with an Emphasis in the Educable and Trainable Mentally Handicapped
861 Major in Special Education with an Emphasis in the Physically Handicapped
862 Major in Special Education with an Emphasis in the Visually Handicapped
863 Major in Special Education with an Emphasis in the Hearing Impaired

The College of Business

865 Major in Accounting
866 Major in Business Education in the Area of Teaching
867 Major in Office Administration
868 Major in Business Education with an Emphasis in Distributive Education Teacher Coordinator
869 Major in Finance
870 Major in Management
871 Major in Marketing

Academic Areas of Interest

874 Honors Program
875 Graduate School

1. Student Personnel Services Committee Final Report, March 21, 1972, Northern Illinois University, DeKalb, Ill. p. 6.

2. Earl Nolting and Steven R. Saffian, "A New Direction for Student Affairs on Large Campuses: The Information and Referral Service," NASPA Journal Vol. 10, No. 2 (1972): 148.

3. Letter on Digital Information Access Line from John Wilson to Division of Student Affairs, November 13, 1973, Northern Ill. Univ., DeKalb, Illinois.

4. Publicity Release from Office of Information and Public Affairs, June 20, 1974, Northern Ill. Univ., DeKalb, Ill.

5. Nolting, "New Direction for Student Affairs," p. 148.

6. Publicity Release from Office of Information and Public Affairs, October 11, 1976, Northern Ill. Univ. DeKalb, Ill.

"EXTENSION TELETIP? I UNDERSTAND YOU KNOW EVERYTHING"

Janice R. Christensen
Extension Media Editor
Department of Agricultural Information
North Carolina State University
Raleigh, North Carolina

In four years, the dial-access effort in North Carolina moved from a 10-week trial run in one county to a year-round, state-wide toll free information data bank.

The number of pieces of information jumped from 40 tapes, dealing only with food conservation, to 781 pieces of information on synergy, home repair and maintenance, gardening, lawn care. pest control, and family resource management.

It's a success story that the North Carolina Agricultural Extension Service likes to share with others.

It started in 1974 with several Extension staff members from North Carolina hearing reports of a dial-access system pioneered by the University of Wisconsin.

Each staff member thought the idea interesting, innovative and workable in North Carolina. Extension Editor Jan Christensen shared the idea with information staffers. District Agent Lois Brown knew she wanted to try it soon in her region, and others were intrigued by the possibilities. What was needed was to get these people working together.

PILOT PROJECT

In 1975, Dr. Brown came to the Department of Agricultural Information, asking for help in setting up a dial-access system for Wake County.

Raleigh, the capital of North Carolina is in Wake County, as is North Carolina State University, one of the state's two land grant institutions and home of many Extension specialists and administrators.

Wake County has been a rapidly growing and developing county. Extension staff members found themselves working with an increasingly large clientele, and with many families moving in from other sections of the country.

Agents were asked the same questions over and over, especially when the canning and gardening seasons rolled around.

To help staff members burrow out from under repetitive questions, Dr. Brown, representatives from Agricultural Information and staff members from Wake County decided to give dial-access a try.

Forty frequently asked food conservation questions were ferreted out. Contact was made with the Dane County staff in Wisconsin and Extension specialists at the University of Wisconsin for copies of their information.

Contact was made with Southern Bell Telephone company for advice on hardware and software needed and a location for the dial-access system was found on the North Carolina State University campus.

The State Agent for the North Carolina Agricultural Extension Service, submitted a proposal to the Agricultural Foundation at North Carolina State University, for financial support.

What to name the prototype dial-access system generated a lot of discussion. The name Teletip was finally chosen. It was catchey, it would sound good in promotions; and it was all encompassing. Topics and categories could be added without limitations.

The choice was a wise one. The name Teletip was used on all Extension dial-access efforts from 1975 on.

The Wisconsin messages were reviewed by North Carolina State University extension food specialists and edited by information specialists. They were

recorded in the Extension Service's radio studio on 7" reel-to-reel tape and dubbed onto cassettes. Three copies were made of each message.

Part-time operators manned the system for about 10 weeks during the summer. The experiment yielded 1,746 calls.

PIONEER COUNTY

The following year, 1976, the Guilford County Staff, located in the second most populus area in North Carolina decided to try dial-access for disseminating home food production and food conservation information.

Among their objectives: 1) to make more information readily accessible to more people for longer hours, 2) to reduce the amount of agent time used in routine calls, 3) to increase the amount of agent time available for additional aggressive educational programs.

Agents identified 189 different topics that needed to be covered. Messages were pre-recorded on a master tape and then transcribed to cassette tapes.

The County Extension Chairman gave primary administrative leadership in writing the proposal, working with the budget, assigning agent responsibilities, securing equipment and personnel and serving as a liaision with state Extension personnel.

State specialists in the departments of Agricultural Information, Agronomy, Entomology, Food Conservation, Horticulture and Plant Pathology, were involved in: 1) furnishing scripts of tapes previously used in Wake County and in other states, 2) writing scripts, 3) editing scripts and telephone consultation.

County Extension agents also wrote and edited scripts, consulting with specialists as needed. Three agents did all of the taping. One agent designed the brochure for publicity. A committee of agents worked on mass media publicity and distribution of brochures.

Two women were employed to operate the system. They divided work time into equal shifts, making Teletip available to the public from 8 a.m. to 9 p.m. Monday through Friday and from 8 a.m. to 5 p.m. on Saturday.

A spare office in the Extension center was used as the "Teletip Room." Tables were placed along two sides of the room for telephones and record keeping.

Their system was composed of three direct telephone lines, one to the city of High Point and two to the city of Greensboro. Each phone was connected to a cassette tape-recorder-player.

Partitioned cases to hold the tapes were built at county expense and placed on the tables for easy access to the operators.

A list of topics was placed above the cases, so when requests were made by topic rather than number, the operator could easily check to see if a tape on the requested topic was available.

Taping was done in the recording room at the Agricultural Center with existing recording equipment.

New equipment and supplies purchased with project funds included: 3 Panasonic tape recorders, 400 audio magnetic cassette tapes, and 12 seven-inch reel-to-reel recording tapes.

Evaluation included the number of calls received each day and subsequently each week, the number of calls received during specific time periods of the day, and the number of calls requesting each tape.

Operators were asked to get names and addresses of one or more callers daily. These callers were asked if they would be willing to answer a questionnaire at a later date on the adequacy of information received by dial-access.

Agents were asked to continually assess the needs for additional tapes based on regular calls received during the summer.

In the 19 weeks that Teletip operated in Guilford County, operators handled 7,146 calls.

The Extension staff was pleased with the results of their initial effort and planned to offer Teletip to county residents again the following year.

FOUR MORE JOIN

The success of the Guilford County effort encouraged four additional counties to submit proposals for dial-access projects in 1977.

The four counties: Forsyth, Davidson, Buncombe and Cumberland received the go ahead and a neighboring county, Alamance, piggybacked onto the Guilford system.

The new operations were patterned after the Guilford system with Guilford agents sharing scripts and expertise with the newcomers.

The only deviation from the pattern was in Buncombe County where the staff paid a local radio personality to record the messages. In the other situations, messages were recorded by local staff.

Each county system cost between $4,000 and $7,000 as each county provided its own hardware and software, and printed its own promotional brochures.

Each county handled publicity locally, working through mass media and other outlets to let the public know the local Teletip service existed.

Each county was pleased with the success of its Teletip efforts and planned to offer the service the following year.

But the choruses of "us-too" that were springing up around the state made it obvious that not all of these separate county systems could be funded.

The possibility of a state-wide toll free Teletip system was introduced in the fall of 1977 on Administrative Briefing, a videotape update done by Extension Administrators for county personnel.

Agents were asked whether or not they favored a state-wide network and if they would make a commitment to support the program if it was launched.

About 40 percent of the counties responded. Most of the responses were positive, but certain reservations were expressed. The main one was identity. Each county staff wanted the people in its area to know it was a partner in the project.

In January, 1978, the task of making Teletip operational state-wide was turned over to specialists in the Department of Agricultural Information.

Messages that had previously been used on the county Teletip systems were reviewed. All were re-edited and updated.

And the number of messages offered on Teletip ballooned from 189 to 397, as information gaps were identified.

A four-digit numbering system was developed that assigned permanent numbers to each topic. Years from now a caller asking for message 2431 will get information on "Zebra Plants," while another caller asking for 2944 will find out how to control poison ivy. Even a person with an old directory can get help from the Teletip operators.

When new topics are added, they are assigned to the correct category and given numbers not previously allocated.

Taking the four digit route has allowed for lots of growth within the Teletip system, without having to scrap what was already functioning.

GOING STATE-WIDE

North Carolina's state-wide Teletip system became operational March 20, 1978 from an office at North Carolina State University in Raleigh.

Telephone--Extension Teletip started with four incoming WATS lines. Two lines were full-time lines and two lines were measured WATS lines. The lines were on a rotation system and the measured-lines became active only when both of the full-time lines were busy.

There was an economic advantage here. When one full-time line was installed, the second full-time line was free. When one measured line was installed, the second was "free." This two-for-one applied only when the WATS lines were of different styles.

After two months Teletip was receiving so many calls, coordinators felt they had to double the system. Four additional full-time WATS lines were installed on May 5.

This, coordinators discovered later, was over-kill. Teletip could have served the caller's needs with six lines--four full-time WATS lines and two measured lines.

Playback Equipment--When it came to hardware, coordinators settled on products from Tapecaster, located in Rockville, Maryland, and purchased two tapecaster cartridge reproducer-players Model X700-RP and eight Tapecaster cartridge players Model X700-P.

Continuous-loop tapes were ordered so each message would re-cue automatically, saving operators and callers rewind time.

Initially, coordinators ordered 300 Mark IV cartridges 2.5 minutes and 400 Mark IV cartridges at 3.5 minutes. If a message was short, it would be recorded twice on one cartridge, and this would, of course, keep re-cue time to a minimum. Later, tapes of 70, 90, 120, 150, 180 and 210 seconds were ordered so message length and tape time could be matched more closely.

Coordinators purchased partitioned lazy susan storage racks that held 400 messages each. There are 20 rows, each holding 20 messages. To make the location of each message easy, the number of the first and last cartridge in each row was pasted at the top of each section.

Coordinator Jan Christensen inserts the requested cartridge into one of the playback units.

Three copies of each message were dubbed, therefore, three racks were needed for storage.

Teletip's dial-access equipment is maintained by a full-time engineer, employed by the North Carolina Agricultural Extension Service to service electronic equipment.

In the late summer, County Extension agents and State specialists were asked for Teletip topic suggestions.

A record was also kept of the additional information Teletip users asked for. Eventually, topic suggestions from all these sources were passed on to a screening committee and 365 additional topics were approved for inclusion on the system. New categories and number of topics included:

Nutrition and Diet	2
Food Buying	14
Game and Meat Cookery	13
Forest Resources	20
Estate Planning	8
Family Resource Management	15
Consumer Tips	23
Tax Management	8
Home Repair and Maintenance	31
House Care--Inside	30
Water	10
Septic Tanks	10
Stain Removal	52
4-H and Youth	7
Personal Growth	10

In addition, topics were added to the categories already on Teletip. The information available on energy and houseplants, for example, was doubled.

Again, content was supplied by Extension specialists and Extension information specialists edited and recorded messages.

Two additional services are offered through Teletip. During the summer of 1978, Extension entomology specialists prepared an Insect Pest Alert that kept Extension agents across the state informed of insect infestations and control methods. Information was updated twice each week.

Pest Alert returned May 1 of 1979. Some weeks two scripts were provided: one covering field crops and the second covering horticultural crops.

December 19, 1978, Extension Teletip initiated a "Best Food Buys" message. Information is updated every two weeks.

Records are kept of each Teletip item requested. In the first year the most popular message in the system was Number 2703 "Flea Control."

AUDIENCE

During a six-week period in the fall of 1978, Extension Teletip operators asked each user what county he was calling from. All but one of the state's 100 counties was represented. The greatest number of calls came from the most heavily populated areas of the state, and from those counties that had previously offered dial-access information at the local level.

Many callers were "transplants" to North Carolina and were not familiar with the North Carolina Agricultural Extension Service or the competencies of the local staff.

TAPE PRODUCTION

Each of the 781 messages on North Carolina's Extension Teletip system was produced in the radio studio of the Department of Agricultural Information at North Carolina State University.

Messages were taped on 7 inch reel-to-reel tape and dubbed onto cartridges. Recording was done by three Extension information specialists and dubbing was handled by the Extension radio specialist and an engineer employed by the Department of Agricultural Information.

Recording costs therefore involved the purchase of reel-to-reel tapes and cartridges. There were no "talent" or engineering charges per se.

To tie-in the counties' cooperation of the state-wide Teletip system each message ends with the tagline "for more information, please contact your local Agricultural Extension office."

Teletip operators have the telephone number of each county office in case a caller needs assistance in reaching agents.

Each county office has a copy of each message on the Teletip system.

PROMOTION

Potential callers of Extension Teletip need access to a topic list and number assigned to each message. So Extension agents in each of the 100 counties and Cherokee Indian Reservation were asked to order the number of brochures they would need to serve their clientele.

Counties were given the option of having their county name printed on the brochures such as "Chatham County Extension Teletip" or "Rowan County Extension Teletip" or to order brochures with the all-encompassing "N. C. Agricultural Extension Service" Teletip. The inside of all brochures was the same.

Ninety-seven of the counties ordered personalized brochures. This increased printing costs, but paid off in the amount of exertion extension county staff members expended in local promotion efforts.

The initial printing run was 475,000 copies. An additional 85,000 copies were needed to handle reorders.

In addition, county extension staff members used their newspapers, radio, television and community contacts in promoting Teletip.

Some fill-in-the-blank news stories were sent to county personnel by state information specialists but this was kept to a minimum.

State Information staff members made use of all their media contacts in promoting Teletip. Efforts included news releases, radio spots, television promotions, and magazine articles.

Two portable exhibits were designed and offered to county staff members for use at local events and were set up by state staff members at some state-wide activities.

Even so, the most effective promotion occurred when satisfied Teletip users told their friends about the service.

In the fall of 1978, when the additional messages were added to the system, the counties were asked to order the promotional brochures they would need for the coming year.

This time there was an initial run of 526,400 with a second press run of 35,000.

EVALUATION

In addition to finding out where the calls were coming from, two other evaluation surveys were conducted in 1978.

One was a survey sent to Extension County staff members to find out if they felt Teletip was a plus or minus when it came to providing local residents with useful information.

Out of the 74 counties responding, 51 indicated that Teletip was "a definite asset," 20 reported "somewhat of an asset," while three reported it was too early to determine its effect.

The second survey was done with Teletip users.

(See Teletip Evaluation Instrument)

ADVISORY COMMITTEE

There is an all-Extension advisory committee for the Teletip program. The nine-person committee includes three county Extension staff members, three members of the state Extension specialist staff, two members from the Department of Agricultural Information, and one staff member from A & T State University, Greensboro, the second state land grant university.

Jan Christensen Teletip coordinator, is an ex-officio member of the advisory board.

Some functions of the committee are to: 1) help suggest, select and screen topics of broad local appeal to be included in Teletip. 2) suggest ways to promote Teletip. 3) provide feedback of clientele acceptance of Teletip. 4) suggest ways to improve Teletip.

The first year of Teletip's operation, the advisory committee met three times. After that the committee met one or two times a year.

STAFFING

The Extension Teletip operation has one almost full-time staff person who works 39 hours a week. Three part-time operators cover the additional time needed to keep Teletip operational 69 hours a week.

One operator can usually keep up with the calls coming in on six lines, however, if calls get backlogged, a secretary located in the same office lends a helping hand.

Operators are paid an hourly wage. The 39-hour-a-week operator receives the highest wage, two operators earn minimum wage and the fourth operator, a college student who has been with Teletip since the beginning, earns slightly above minimum wage. Part-time workers are employed 16, 12 and 8 hours respectively.

Efforts are underway to make the chief operator job a full-time salaried position with benefits.

In the first year of Teletip operation, salaries accounted for 13 percent of the total expenditures.

New Teletip operators receive on-the-job instruction from the chief operator.

FUNDING

The first year of state-wide operation, Teletip was run on "carryover" federal funds. These are funds that accumulate when positions are left vacant during normal turnover.

A request was made to the North Carolina State General Assembly in 1979 for partial support on a continuing basis.

COST EFFECTIVENESS

The first year Teletip expenditures broke down this way: Telephones, 40%; promotional brochures, 36%, labor 13% and equipment and supplies, 11%.

Costs for the first year averaged 74 cents a call and should continue to drop.

In addition, the North Carolina Agricultural Extension Service has received more accolades from Teletip than perhaps any other program launched in the past 10 years.

N. C. State University Chancellor Joab Thomas summed Teletip up this way:

"This is one of the more effective and innovative public service programs that I have seen in a long time. It hits dead center on the responsibility of this institution to provide public service. It's a supreme example of the Extension Service moving into the last quarter of the 20th Century."

An important key to the success of Teletip is the support given at each level of the North Carolina Agricultural Extension Service.

County Extension personnel not only pioneered Teletip. they have offered suggestions to improve the system and they have pulled out the stops when it came to promoting Teletip at the local level.

State specialists have supplied scripts and have bragged about Teletip at meetings they've conducted at the state and even the national level.

Extension Administration team members have come up with financial assistance and have "talked up" Teletip every chance they've gotten.

When Teletip was launched on the state level. the comment was made by the coordinators that they "did not want Teletip to be a well-kept secret." They wanted everybody to know about it.

Chances are not everyone has heard of Teletip yet, but it isn't for lack of trying.

When Teletip reached its first birthday, March 20, of 1979, operators had handled 122,173 calls. One of these calls came from a young man who needed a name for his boy-dog.

"Extension Teletip?" he said, "I understand you know everything."

TELETIP EVALUATION INSTRUMENT

1. Do you like the Teletip communication system?

   Yes _____ No _____

   Why? _____

   _____

   _____

2. How would you rate the Teletip program?

   Excellent _____ Very good _____

   Good _____ Fair _____ Poor _____

3. How many times have you used the system? _____

4. Were the tapes:

   Complete _____ Not Audible _____

   Not Complete _____ Easily Understood _____

   Audible _____ Not Easily Understood _____

5. Do you have any suggestions for improving the messages or the system?

   Yes _____ No _____

   (If yes) What are your suggestions?

   _____

   _____

   _____

   _____

   _____

   _____

6. How did you obtain your brochure?

   _____

   _____

Table 1

DO YOU LIKE THE TELETIP COMMUNICATION SYSTEM?

YES		NO		TOTAL	
NO.	%	NO.	%	NO.	%
175	100			175	100

Table 2

HOW WOULD YOU RATE THE TELETIP PROGRAM?

Excellent		Very Good		Good		Fair		Poor		Total	
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
128	73.5	20	17.5	16	9	0		0		174	100

Table 3

HOW MANY TIMES HAVE YOU USED THE SYSTEM?

0 - 5		6 - 10		11 - 15		16 & Over		Total	
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
110	64.5	35	20.5	15	8.5	11	6.5	171	100

Table 4

WERE THE TAPES:

Complete		Not Complete		Audible		Not Audible		Easily Understood		Not Understood		Total	
NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
139	80.5	33	19.5									173	100

Table 5

DO YOU HAVE ANY SUGGESTIONS FOR IMPROVING

THE MESSAGES ON THE SYSTEM?

YES		NO		TOTAL	
NO.	%	NO.	%	NO.	%
45	26.3	126	73.7	171	100

Suggestions:

	NO.	%
Tapes longer	2	5.5
Tapes slower	21	58.4
House plants	4	11.1
Instructions more precise	3	8.6
More publicity	2	5.5
Printed copies of tapes	1	2.7
Tapes louder	1	2.7
More topics	2	5.5
TOTAL	36	100

Table 6

HOW DID YOU OBTAIN BROCHURE?

Methods of Obtaining Brochure	Number	Percent
Mother-in-law	1	.6
Teletip	8	5.4
Mail	26	17.6
Work	4	2.7
N C S U	3	2.0
Extension Office	53	35.6
Library	3	2.0
Sister	2	1.3
Friend	12	8.2
Newspaper	17	11.4
Bank	4	2.7
Neighbor	1	.6
Feed Store	6	4.0
Y M C A	1	.6
School	3	2.0
Husband	3	2.0
Back Yard Gardener	2	1.3
Total	149	100

UNIVERSITY OF WISCONSIN-EXTENSION'S DIAL ACCESS SYSTEMS:

AN OVERVIEW

Marcia A. Baird, Assistant Director
Instructional Communications Systems
University of Wisconsin-Extension

Introduction

For outreach education to meet the needs of people and communities, adult citizens need access to educational information on many topics. Dial access systems make an important contribution to the University of Wisconsin Extension mission of linking people with information.

Libraries of recorded informational messages are available to many Wisconsin residents through a telephone call, 24 hours a day, 7 days a week. In addition to a tape library for health professionals, Wisconsin dial access libraries help consumers answer questions about raising plants, canning tomatoes, keeping children healthy and much more.

Instructional Communications Systems, a support unit of University of Wisconsin-Extension, works with programming departments and community faculty to coordinate dial access services. Assistance is provided in the areas of tape design, production, promotion and evaluation.

There is little disagreement among Extension faculty of the need to provide more and better information to consumers when they need it. In response to this need, Extension departments and many other organizations around the country have developed innovative mechanisms for more immediate, effective information dissemination.

A traditional approach to this problem has been broader use of print media. Sophisticated delivery systems such as television, radio and film have also been used. Neither print or broadcast media, however, reduce the complexities of the university system for the individual who has a particular problem at a particular time.

To deal with this information and communications problem on an individual, immediate basis, University of Wisconsin-Extension is using telephone tape information systems to provide clear, instantaneous information; advice when appropriate and if necessary, referrals for more information.

Purpose and Service in Wisconsin

Dial access programs in Wisconsin are not designed to replace professionals such as horticultural agents or other county Extension faculty. There are however many subject areas, such as horticulture and food preservation, that lend themselves to short informational tapes.

Dial access extends the capabilities of University of Wisconsin Extension faculty for communicating information to consumers quickly and efficiently. It also helps relieve county staff of responding to repetitive, seasonal questions. A Milwaukee area experience indicates 30 minutes of faculty time spent preparing a dial message can reach 1 500 people on a peak day. Tapes presented via dial access also save the callers valuable time, providing them with information almost the minute they need it.

UWEX operates several different dial access systems in the state. In all, approximately half of the state's 4.6 million people can call a dial library toll-free. A combination of standard telephone equipment and facilities, FX (foreign exchange) lines and in-WATS (wide area telephone service) lines are used to instantaneously transmit information to callers. Nearly half a million calls were placed to the various dial libraries during 1978.

Among the UWEX dial libraries are these:

Dial-A-Tape--More than 900 messages are currently available to consumers in Dane, Rock, Sheboygan, Fond du Lac and LaCrosse counties.

1S1

Nearly Half A Million Calls Were Placed To Wisconsin's Varied Dial Access Libraries During 1978

Other Dial-A-Tape libraries are based in Rhinelander, Wausau, River Falls and Eau Claire. Tapes are available in the areas of gardening, food preservation, consumer health, energy conservation, music, consumer information and protection, child development, motor vehicle information, nutrition and independent study programs available through UWEX.

Dial-A-Mini Message--In the Milwaukee area, more than 600 tape topics are available on such topics as food stamps, how to conduct a rummage sale, buying blue jeans and what to do with a car's oil after an oil change. The system serves Milwaukee, Ozaukee, Racine, Washington and Waukesha counties.

Dial-A-Tip--Another Extension service which brings information to Milwaukee area consumers via the telephone is Dial-A-Tip. One tape message is featured every 24 hours. The most popular tape, "How to Freeze Tomatoes" attracts about 1,800 calls a day during the canning season.

Health-Line Highlights--Residents of Dane County, the Fox Valley area, and Racine and Kenosha can call Health-Line Highlights for a health message that changes weekly. Topics range from winter exercise tips for senior citizens to a discussion on the sense and nonsense of calories.

Health-Line for Hospitals--A number of hospitals throughout the state use the dial system to educate patients and families. These taped messages include explanations about surgery, cancer and its treatments, diagnostic procedures, x-rays and what to do when leaving the hospital. Hospital personnel

have found that this service calms patients and keeps them alert to their health situations. Services are located in Madison, Watertown, and Wisconsin Rapids.

Dial Access for Health Professionals--Nurses and other health professionals also use the dial system to keep up-to-date in their fields. The UW-Extension Departments of Nursing and Continuing Medical Education have developed more than 600 tapes which can be used in emergency cases, as well as for continuing education. These messages present core information about new procedures and equipment, recent developments in the field, and legal aspects of the profession.

This 24-hour service was designed particularly to help the nurse in rural areas and the nurse who works alone, in industrial or school settings.

Present Dial Access Technical System

Most dial systems currently operating in Wisconsin are manually operated. The dial access equipment, when interfaced with the existing telephone network allows the playback of a pre-recorded tape message over the telephone. An operator answers an incoming call and, in response to the caller's request, manually selects a tape from the library. The library consists of a rack or carousel of tapes catalogued by number. The operator loads the tapes into a playback machine assigned to the telephone line. The tape machines used are converted automobile cassette players. A recorder-coupler leased or rented from the telephone company provides the proper connection between the tape player and the telephone line. The recorder coupler is a "protective connecting arrangement" and provides the line supervision of answer, line seizure and disconnect.

Most present systems that are automated require a tape machine and telephone line for each tape in the library. This results in a very small library of messages available.

Development of an Automated Dial Access System

Because the manually operated system requires costly operator services and has built-in inefficiencies, the need for an automated system has been recognized. In 1978 UWEX was awarded a grant by the Department of Health, Education, and Welfare for development of an automated dial access system.

ICS is currently working with International Tapetronics Corporation of Bloomington, Illinois, on the design and packaging of the tape storage retrieval unit and with Physical Sciences Laboratory of Stoughton, Wisconsin, on development of an interface between the equipment and the regular telephone system.

The automated system is expected to extend the capabilities of dial access to provide more information, more efficiently over a much larger geographical area.

The first prototype of the automated equipment will undergo initial demonstration and evaluation in Madison in late 1979 and 1980. Any modifications needed to improve the system would be delineated at this time. The system's efficiency and cost effectiveness for possible regional and statewide application will be tested during the pilot demonstration period.

Operational Features Of The Automated Dial Equipment

The proposed dial access machine being developed is a computerized system that stores, retrieves and plays taped messages automatically. In conjunction with a telephone system interface, it decodes tape requests in the form of touch tones generated by a caller who is using a standard touch tone telephone.

Attempts to have the equipment respond automatically to clicks generated by a telephone rotary dial have so far proven unreliable due to modern telephone switching systems. The telephone industry has standardized on the use of dial type pulses for system supervisory signals and touch tones for signaling over the message transmission system/ regular telephone service.

Some of the major features of the automated dial equipment are as follows:

1. Stores 1,024 messages on standard NAB (National Association of Broadcasters), endless loop cartridges with one message per cartridge.

2. Has a message length of up to 20 minutes per cartridge.

3. Allows random access to all cartridges in the storage library.

4. Decodes tape requests directly via touch tones (calls from rotary dial telephones can be routed to an attendant operator who makes the se-

lection entry).

5. Takes an average time of 5 seconds to retrieve a tape and load it into a playback machine.

6. Accommodates up to 20 playback machines and, with the telephone interface matrix, plays the tapes over any of 20 telephone lines.

7. Message cartridges are easily produced and a computer coded selection number that is machine readable can be applied with a stick-on label.

8. Is equipped with a keyboard that provides direct access for loading and unloading of cartridges and verification of cartridges in storage. The keyboard also provides control of the storage and retrieval mechanism and displays diagnostic information to support installation and maintenance.

9. Has a microcomputer than can be programmed to print out data for program evaluation such as tape number, the date and time a tape is played.

10. Can be programmed to handle up to three cartridges with the same message to serve simultaneous requests for a popular message or tip of the week.

Dial Access Cassette Production

ICS distributes pre-recorded messages to the dial access systems in cassette form. Cassettes are used rather than cartridges primarily due to their small physical size, which allows more messages per storage space. Also, the playback decks themselves are physically smaller.

Although dial access by its very nature uses voice grade telephone circuits and is limited in its bandpass, the recordings are professionally prepared to provide the best possible reproduction.

Dial access master recordings are done in professional recording studios within the ICS headquarters. They are done at 7 1/2 ips, full or half track mono. From the finished master, another reel-to-reel sub-master is prepared from which cassettes are dubbed. The submaster is recorded dual track, with the message on trackone in the forward direction, and track two in the backward direction. This enables both tracks to be duplicated at once, cutting production time in half.

Dial access cassettes are recorded half track mono, cut to exact program length, with the same message on both sides. This eliminates the need for rewind or fast forward at the end of a message. All the operator needs to do is flip the cassette over, and it is ready for the next call. When tailoring a recorded cassette, the leader is also shortened by about half. This means that the message will start approximately two to four seconds after the cassette is put into the playback deck. This helps keep the time a caller must wait till the message begins down to a minimum. (This becomes more important when an incoming call is a toll call.) Cutting the leader too short may decrease the wait time, but it also causes additional difficulties. Frequently, the splice will be located near or on the capstan. If the playback deck does not have an automatic shut-off feature, the friction of the capstan and pressure roller may break the splice.

Dial Access Advisory Committee

Although University of Wisconsin-Extension pioneered in the development and implementation of an experimental Dial access system, an overall plan and operational procedures for the potential state and regional dial access systems needed to be developed and implemented.

In order to meet this challenge, Dean Luke F. Lamb appointed a Dial Advisory Committee in 1977. The major goal of the committee was to develop such a plan, based on the philsophy that a dial access system should be considered as an academic support service of University of Wisconsin-Extension, accessible and available to any Extension program area that may wish to use it.

The committee was composed of representatives of the programmers who were and will potentially be using the system and also representatives of ICS.

The committee was divided into subcommittees of programming, promotion and publicity, evaluation and operations.

Among key concepts in the advisory committee report are these:

A) Primary dial access programmers include UWEX departments and community faculty, along with the University of Wisconsin System.

Many other groups may also have goals

and priorities which coincide with the Extension outreach mission. Other dial access programmers could include state of Wisconsin governmental agencies, private colleges, vocational schools, hospitals, federal agencies and professional associations.

ALL programmers however, must meet certain criteria for entering tapes into the statewide or community dial access library.

B) The dial access system can serve both statewide and community needs, regardless of the physical location of the library. A typical tape library contains tapes applicable throughout the state, as well as tapes that focus on specific community information. Both kinds of tapes can be accessed at all times.

The following section highlights specific procedures that programmers are to follow when programming on Extension's dial access system.

Dial Access Operational Procedures

Meet With ICS Staff

Instructional Communications Systems (ICS) coordinates UWEX Dial Access services. ICS assists programmers in tape design, production, promotion and evaluation. In addition, ICS works with Extension faculty in each dial access service area on local administration and promotion.

Dial access programmers should meet with ICS staff to discuss the overall design of the tape project, including:

1. objectives
2. project timetable
3. criteria for entering tapes
4. development of scripts
5. budget
6. production of scripts
7. promotion and publicity
8. coordination with communities
9. evaluation

Plan General Timetable

1. Development of a Tape Series

Programmers planning a tape series (20 tapes, for example) are encouraged to allow three months for development of tape scripts, production of tapes and printing of promotional materials.

2. Revisions/Additions to an Existing Tape Series

Programmers who want to revise individual tapes or add several tapes to the statewide or community dial access library should allow two weeks to one month for script development, tape production and promotion.

3. Emergency Dial Access Information

Programmers using the dial access System to disseminate emergency information should allow two to three days for development production, promotion and mailing of the tapes to the dial libraries.

Follow Authorship/UWEX Approval Criterial For Statewide Dial Library

A. UWEX community faculty, department, UW Systems programmers

↓

1. Author must be UW faculty or academic staff

B. State agencies, schools, hospitals, professional groups, etc.

↓

1. Author/organization must have cosponsorship with UWEX

Both A and B must meet the following additional criteria:

2. Content developed must be in author's area of expertise.

3. Approval of appropriate UWEX program area chairperson or designee to avoid duplication of tapes and confirm author's subject matter expertise.

4. Requesting unit and UWEX programming department agree as to who will bear tape development/production costs.

Follow Authorship/UWEX Approval Criteria For Community Dial Library

A. UWEX community faculty, departments, UW System programmers

↓

1. Author must be UW faculty or academic staff

B. State agencies, schools, hospitals, professional groups, etc.

↓

1. Author/organization must have cosponsorship with UWEX

Both A and B must meet the following additional criteria:

2. Identified local need which is not met by statewide library.

3. Content must be in author's area of expertise.

4. Approval of county office chairperson, district director or appropriate UWEX subject matter specialist, as appropriate.

5. Local budget must bear costs.

Develop Script

Dial access authors should follow these guidelines when writing scripts:

1. Dial access scripts should be about 3 to 5 minutes in length. A maximum of two pages of typed copy, double spaced is suggested. Consider dividing longer material into two or more tapes.

2. Give each script a specific, descriptive title.

3. Focus on one subject per tape.

4. Follow this formula in writing a script:

   Tell what you are going to talk about.

   Present your content.

   Summarize what you have said.

5. Use simple language, common words and short sentences. Exclude all extraneous information and phrasing. Read your final script aloud to see how it strikes the ear.

6. Repeat names, telephone numbers, addresses and other important information. Some listeners may be taking notes.

7. All dial access tapes should refer callers to a local organization for more information. In many cases this will be a reference to the local University of Wisconsin-Extension office. For example,

   "These are just a few examples of the many different kinds of flowering crabs available. For more information, contact your University of Wisconsin-Extension county office."

8. All UWEX dial access tapes must close with the appropriate tag line. For example, a statewide tape would end with:

   "This message has been brought to you be University of Wisconsin-Extension."

   OR

   "This message is sponsored by the Wisconsin Bar Foundation in cooperation with University of Wisconsin-Extension."

A community tape, for example, might end with:

"This message has been brought to you by University of Wisconsin-Extension, Marathon County."

Submit Script To Approving UWEX Faculty And Then To ICS

Once programmers have the appropriate UWEX approval for scripts, ICS will review scripts for conciseness and listenability. Scripts will be returned to the programmer for final approval in the case of any significant editing.

Record Dial Access Tape

All dial access tapes must be recorded in a professional recording studio. ICS has facilities for recording, as do private and campus radio stations.

Before recording, programmers are encouraged to submit a sample voice tape to ICS for evaluation of a speaker's listenability. ICS will consult with the programmer to determine if the author, another UWEX faculty or staff member of a professional voice should make the recording.

Prepare Program Announcement

ICS will prepare a Program Announcement for each dial access tape. It is sent to each Wisconsin county office for reference.

It includes:

1. Tape title
2. Date recorded
3. When available on dial systems
4. Department, coordinator and author
5. Complete tape transcript
6. Publicity plans

Prepare Program Publicity

Dial access promotion and publicity seeks to create public awareness of the service and to distribute brochures and tape listings directly to potential callers. A secondary goal is to continually remind the public of service availability and to elicit community support of the service. UWEX Program Information will work with programmers to produce the following:

1. Brochures--Brochures containing complete listings of all statewide and community tapes are prepared annually for each service area.

   Extension faculty within dial access service areas help distribute brochures.

2. Newspaper Features--News releases, fact sheets and photographs are prepared by Program Information to introduce new tape series and to highlight selected groups of tapes. Releases are mailed to Extension faculty for local use.

3. PSA's

4. Radio and Television Features

5. Other Promotion and Publicity--The success of the dial access system is dependent upon continuous follow-up publicity. One method of follow-up publicity is:

   A "Message of the Week" feature. This is a high interest message selected from the library and promoted each week in local media. This message assures that the service will be in the news at least once a week and is a regular reminder about the entire service.

Duplication of Tapes

ICS will coordinate duplication and mailing of all dial access tapes to the various dial access service areas.

ICS will assume a librarianship role for the statewide program, assigning all tape catalog numbers, filing master tapes, maintaining a current script file, etc.

Monitoring Of Tape Counts

ICS currently maintains frequency counts of statewide dial tapes in conjunction with the service areas. Frequency counts are supplied to community coordinators and programming departments for use as they deem appropriate.

Evaulation Of The Dial Access Services

Ongoing evaluations of the dial access system are conducted to determine achievement of program objectives, consumer reaction, and cost-effectiveness. The following three methods are used to evaluate the dial access system:

1. Reports and informal communications from Extension faculty within a dial service area.

2. Meetings of the dial access advistory committee.

3. Sample surveys of callers.

Extension faculty periodically submit reports on the dial access programs in their areas. These reports typically consist of a review and evaluation of the dial access programs, including area objectives, cost-effectiveness, and identification of key problems and issues. Informal communications via phone, letter, or personal contact between local program coordinators, department program coordinators, state program leaders, and staff at ICS also provide information as to the overall effectiveness of the dial access system.

Meetings of the dial access advisory committee, composed of program coordinators and ICS staff have also been helpful in evaluating the dial access system and planning for growth of the service.

Surveys of a sample group of dial access callers also provide important evaluation information. Several caller evaluations of the dial access system in Dane, Fond du Lac, La-Crosse, Rock and Sheboygan counties have shown this educational delivery system to be an effective means of delivering information requested by large numbers of people.

To determine consumer reactions to the dial access systems and to gain suggestions

for improvement, a sample of 100 dial access users who had called either a home or garden tape, were interviewed via telephone during the summer, 1977. Upon asking for a particular dial tape, callers were asked for their telephone number by the operator. Four to seven days later, these parties were called back by an ICS staff member and asked to respond to items on a three-page questionnaire.

Some highlights of that survey included the following:

1. Which of the following reasons best describes why you called the particular tape?
   Immediate need----------19%
   General problems----------36%
   Review/update knowledge---------- 9%
   For new information----------15%
   Curiosity----------21%
   Other---------- 0%

2. Did you check anywhere else for this information before calling?
   Yes----------34%
   No----------66%

3. Did you listen to the entire tape message?
   Yes----------97%
   No---------- 3%

4. Did the tape message give you the information you wanted?
   Yes----------79%
   No----------21%

5. In what ways was the information helpful to you? A sampling of comments...

   I wasn't sure of cutting up the peaches and the tape reassured me that my old method was correct.

   Tape told me the freezing process for broccoli.

   The information made me feel what I was doing was correct.

   The tape was very helpful since I didn't know anything before I heard the tape. I learned how to prepare the raspberries for the winter.

   I was going to freeze beets and needed to know if it worked very well.

   I learned how to freeze tomatoes.

   I wanted to know how to get yellow wax build-up off.

   None of my cookbooks told how to freeze cabbage. Dial access said it was freezeable.

   I wanted to know how to make sauerkraut and I found out.

6. Why wasn't the information on the tape helpful to you? A sampling of comments...

   The information was too fast, you should repeat the quantities of the lemon juice and all quantities should be repeated so that we don't have to call up again.

   Not specific. Didn't get to the point of freezing uncooked tomatoes.

   I do not want to use "Fruit Fresh" on my canning. The acid compound they suggest isn't available.

   Not specific enough on one specific vegetable.

   The tape didn't give a way to get rid of mushrooms in lawns.

7. How difficult was the information on the tape to understand?
   Easy----------92%
   Hard---------- 2%
   In-Between---------- 6%

8. Have you tried any of the recommendations presented on the tape?
   Yes----------55%
   No----------45%

9. In general, are you satisfied with the tape information service?
   Yes----------95%
   No---------- 5%

10. Do you have any suggestions for garden, food (or health) topics that you would like to have available on the dial system? A sampling of comments...

    Harvesting, canning and freezing pumpkin.

    More tapes on tree care.

    Removal of mildew stains on shower curtains.

    More on organic weed and bug killers.

    Anything on uses of honey.

    Controlling ants with spice, i.e. pepper.

11. With how many people have you shared information you gained from the tape information service?
No one----------21%
One person----------26%
2-5 people----------47%
6-10 people---------- 1%
11 or more---------- 1%

12. Have you called this dial access service to the attention of any of your friends or relatives?
Yes----------80%
No----------20%

13. From what source did you originally find out about the County Extension dial access system?
TV---------- 1%
Extension Office---------- 4%
Friends, neighbors----------15%
Newspapers----------57%
4-H, Homemaker Newspaper---------- 4%
Radio---------- 7%
Garden center---------- 1%
Club meeting---------- 1%
Brochure I picked up---------- 9%

14. When you have questions or problems about plants, gardening, food preservation/home care topics or health topics, where do you generally go for information?
Family/relatives---------- 8%
Friends/neighbors---------- 9%
Product instructions---------- 1%
Plant supply dealers---------- 3%
Mags/books----------12%
Extension specialists---------- 3%
Extension bulletins---------- 1%
Dial access----------20%
Don't seek help---------- 5%
Others (personal libraries, library 38%

15. Have you ever called your local Extension ag or horticulture agent for information?
Yes----------51%
No----------49%

16. Have you ever called your local Extension home economist for information?
Yes----------27%
No----------73%

17. Have you ever attended a meeting or course sponsored by University Extension?
Yes----------25%
No----------75%

18. Do you live:
In a large metropolitan city-------62%
In a village or small city---------23%
In the country but not on a farm---13%
On a farm---------- 2%

19. What is your approximate age?
Under 20---------- 6%
21-30----------38%
31-40----------18%
41-50----------20%
51-60----------12%
Over 60---------- 6%

20. Sex (by observation)
Male---------- 8%
Female----------81%
Omit----------11%

Surveys such as this one have helped programmers identify strengths and weaknesses of both individual tapes and of the entire dial access service. In addition it has helped build a demographic profile of dial access callers.

The Future

The dial access system is viewed as an important academic support service of Extension. In several areas of the state the service has been integrated into ongoing Extension programming. Several efforts are underway to not only continue the present dial system but also to improve and extend it.

Extension's long range goal is to secure funds and equipment to expand the service statewide.

THE DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF THE LA CROSSE DIAL ACCESS SYSTEM

By
Gary D. Gilmore, M.P.H., Ph.D.*
Richard K. Williams, M.S.*

Introduction

Historical Perspective

Early efforts in establishing a Dial Access system in the La Crosse region were initiated in 1975. La Crosse County was selected and agreed to participate in an expansion of an existing telephone-tape information system which was known as Dial Access and operated in Dane County as a University of Wisconsin Extension service. County Extension personnel provided input to the system expansion committee in terms of content review and system development. The existing tape library in Madison was connected to the La Crosse phone exchange via a fixed long distance line, allowing county residents to dial a local number which resulted in a Madison connection. The County office provided promotional support through information releases and advertising to the media and direct mailing of tape library catalogs. The initial system contained only horticultural and family living subject matter. In 1976, the need was identified for uniformly conveying accurate health information to patient populations in La Crosse's health care facilities, as well as the general public. Representatives from the hospitals, University of Wisconsin-La Crosse, and University of Wisconsin-Extension conducted discussion sessions which entailed the consideration of employing an already-established Dial Access system called Health-Line originating from a patient information service.[1] Contact was made with the originators of Health-Line, discussions held, but no cohesive plan resulted.

Late in 1976, the need for such a system again was voiced by health professionals, and it became clear that a distinct plan of action had to be developed. A representative planning committee was formed, renewed contacts with the originators were made, and a design for development, implementation, and evaluation was drafted.

Community Setting

La Crosse County, 481 square miles in size, is located in west-central Wisconsin. Its socioeconomic characteristics include an agricultural community, a small metropolitan city which contains 56% of the total population, and numerous suburban areas. The overall economy is nicely balanced with a healthy service and manufacturing base. Of the 87,500 total county population, approximately 97% has toll-free telephone service into the 785 exchange in La Crosse. In addition, La Crescent, Minnesota, population 3,400, has this toll-free access. Thus, a market area of 88,200 individuals, or approximately 26,000 households, are available for a telephone information system.

Resources and Barriers

Identified resources in the La Crosse area included the support of health care providers, County Extension professionals, and University representatives, potential equipment space at the University, selected local support funding, support funding from the central Health-Line operation in Madison, and local in-kind contributions. Recognition of this local support from the County Medical Society, the La Crosse City and County Health Departments, and the Lutheran and St. Francis Hospitals was included in the tape catalog promotional literature. Potential and actual identified barriers

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Mr. Williams is an Assistant Professor in Community Programs with the University of Wisconsin-Extension, and currently serves as Business Agent in La Crosse County.

included the low awareness by the public of such a Dial Access system, public and professional disfavor with certain taped messages, and diminishing long-range funding.

Program Development

Steering Committee

Based upon the initial efforts in 1975 for a Dial Access system, a grouping of interested health professionals convened a May 1976 meeting in order to discuss the feasibility of establishing a Health-Line system in La Crosse. This grouping became known as a drafting committee, in accordance with its role to develop recommendations for: (1) an organizational structure, (2) sources of funding, and (3) evaluation procedures. From this a steering committee was established which was composed of two representatives from the medical care setting, two from higher education, one from the County Medical Society, two from UWEX, one from a shared health services agency, one each from the City and County Health Departments, and one from the Medical Auxiliary. From this grouping subcommittees were formed for: (1) local tape development, (2) publicity, (3) program evaluation and tape review, and (4) financing.

Goals

The overriding goal of this group was to provide accurate health-related information to the general public in La Crosse County via the Dial Access system. Along with this, it was decided that the already-available home and garden tapes should be incorporated, since the community had demonstrated an interest in them. Another goal related to the hopeful adoption by the general public of improved health habits based upon the Dial Access information in conjunction with other community health education efforts. This similarly was delineated by a New York program relating to cancer education.[2]

Program Methodology and Implementation

Format

Originally, the members of the drafting and steering committee wanted the tape playback equipment located in La Crosse at the University of Wisconsin. It was felt that the equipment could be placed with the University operator, since a new University Centrex Dialing System was going to be installed within six months. It was believed that having a local unit would be critical for underscoring a local orientation of the programming. However, delays in the installation of the Centrex System, recommendations from the central Dial Access System in Madison, and an understanding that a local number still could be dialed, led to the steering committee agreeing to have the system remain in Madison. Contingent upon this was the establishment of a local number which was connected to the central system, assurance of on-going local message review and development, and continued financial support for publicity. Income for the local system included $600.00 from the Health-Line coordinators at the Department of Continuing Medical Education, and $75.00 from each of the institutions represented on the steering committee. In 1977 expenses amounted to $447.00 (printing and supplies, $300.00; postage, $100.00; stationery, $27.00; miscellaneous supplies, $20.00). In 1978 printing and mailing costs were handled through the central Extension Office in Madison. All of the members of the steering committee volunteered their time.

Implementation

A timetable was developed which included the following: November 1, 1976 - tapes and new scripts reviewed; December 15, 1976 - brochures developed; January 10, 1977 - programs begun on two FX telephone lines; July 15, 1977 - six months' evaluation. Along with the review of already-developed tape messages, the steering committee solicited new messages from local agencies which would be composed free of charge. Eleven agencies participated. Of the 321 already-developed messages, 38 were rewritten, and 72 were excluded by the program evaluation and tape review subcommittee. Table 1 depicts the categories of the incorporated messages.

Publicity for the new system included brochure distribution (Table 2), messages through local print, radio and television media, contact with school administrators, and incorporation of the message numbers in institutional newsletters and directories (e.g., St. Francis Hospital Newsline (Figure 1); La Crosse Lutheran Hospital Almanac (Figure 2); and The University of Wisconsin-La Crosse Student-Staff Directory (Figure 3). Stationery also was developed with the "Health-Line La Crosse" logo (Figures 4 and 5). Each steering committee member also described the system by word of mouth, and encouraged its use. Early in 1978, the steering committee spent one entire planning session brainstorming for new, imaginative

publicity approaches. One major suggestion eventually implemented was a direct mailing of the Dial Access brochures to all of the county telephone subscribers. The telephone company was very receptive to this as a public service opportunity.

Table 1
Message Categories For
La Crosse Dial Access, 1978

Category	Calls Received
Health-Line	11,381
La Crosse Area Services	
Leaving the Hospital?	
Hospital Procedures	
Surgery	
Diagnostic Procedures	
X-Ray	
Common Health Concerns	
Emergency Care and Safety	
General Health Information	
Urinary System	
Cancer	
Heart and Blood Vessels	
High Blood Pressure	
Arthritis	
About Your Eyes	
Pharmacy	
About Drugs	
Food and Diet	
Dental Considerations	
Of Interest to Women	
For Patients	
For Children	
Special Subjects	
Money Matters	
Social Issues	265
Garden	1,641
House Plants	
Flowers	
Vegetables	
Fruit	
Lawns	
Ornamentals and Landscaping	
House Pests	
Family Living	1,130
Canning	
Freezing	
Canning or Freezing	
Jellies and Jams	
Pickles and Relishes	
Food Safety	
Food Storage	
Kitchen Safety	
Removing Spots and Stains	
Miscellaneous	

Table 2
La Crosse Dial Access
Brochure Distribution Sites

University of Wisconsin-La Crosse
Viterbo College
Western Wisconsin Technical Institute
Mobile Meals
La Crosse Tribune
Coulee Gazette
Committee on Aging
City Employees
County Employees
Area Health Professionals
Senior Citizen Centers
St. Francis Hospital
Skemp-Grandview Clinic
La Crosse Clinic
Lutheran Hospital
Gundersen Clinic
MTU Bus Line
Banks
Stores and Businesses
Industry
County Social Services
Lutheran Social Services
Catholic Social Services
City Health Department
County Health Nursing Service
Wisconsin Employment Service
Chamber of Commerce
Welcome Wagon
YMCA/YWCA
Airport
Shared Health Services
Churches
Local Media

Program Evaluation

Evaluation

The Dial-A-Tape system does not readily lend itself to a comprehensive analysis based

What is dial access?

A dial access system is a way for you to get reliable information quickly and easily. . .and at no cost to you.

How can you use dial access?

Once you have found a subject of interest:

1. Note the code number.
2. Dial 785-0830.
3. Request the message by number.

The message will last from three to five minutes. You may want to have paper and pencil handy to take notes.

HEALTH-LINE is a service of the University of Wisconsin-Madison Center for Health Sciences and University of Wisconsin-Extension Health Sciences Unit, Department of Continuing Medical Education. All of the messages have been reviewed by the local medical community to insure relevance to people in the La Crosse area. If you need further information, concerning the messages, write to Health Line, 1725 State Street, La Crosse, WI.; or phone 784-6050, ext. 425.

Locally Supported by:

La Crosse City Health Department
La Crosse County Health Nursing Service
Lutheran Hospital
Saint Francis Hospital
University of Wisconsin-Extension
University of Wisconsin-La Crosse

This is a 24 hour, 7 days a week service.

sfh St. Francis Hospital
709 South Tenth Street
La Crosse WI 54601

Figure 1. La Crosse Dial Access Inclusion in St. Francis Hospital Newsline, 1977.

HEALTH-LINE

X rays, Tests, and Services

LC 1001 What is an electrocardiogram (EKG)
LC 1003 Oxygen therapy, what it means to me
LC 1006 Blood studies
LC 1009 Bladder and kidney X ray
LC 1015 Blood transfusion and you
LC 1016 An electroencephalogram (EEG)
LC 1029 Physical Therapy
LC 1031 Intravenous Therapy (IV)
LC 1039 Proctosigmoidoscopy
LC 1047 X ray of your stomach and small intestine
LC 1057 Gall bladder X ray
LC 1061 Origin of donor blood
LC 1062 Charges for transfusions
LC 1064 Biopsy - what and why
LC 1072 What is respiratory therapy
LC 1073 Glucose tolerance tests
LC 1188 Radiation from X rays
LC 1267 Urinary catheterization

Good Advice

LC 1040 Illness and marriage problems
LC 1077 Physical fitness through exercise
LC 1154 No time for exercise?
LC 1166 Before you take the wheel
LC 1209 Are you afraid? I'm afraid!
LC 1254 Medic Alert could save your life

Safety

LC 1087 Prevention of ski injuries
LC 1207 Something in your eye?
LC 1227 Safe snowmobiling?
LC 1231 The friendly wild animal
LC 1233 First Aid for frostbite
LC 1234 First Aid for burns
LC 1235 About head injuries
LC 1245 You and your knee
LC 1246 Christopher Curious and the fire
LC 1247 How to get out of a burning home
LC 1249 Home safe home
LC 1253 Outdoor enthusiasts - think hypothermia
LC 1259 Bike riders alert

For and about Children

LC 1059 X rays and your children
LC 1094 Sue has rheumatic fever
LC 1132 Could my child have cancer?
LC 1191 My child has a fever
LC 1192 Your child has a bad cold
LC 1200 Your child has sleep problems?
LC 1206 What to do about colic
LC 1211 Diarrhea and children
LC 1212 Vomiting and children
LC 1213 Management of vomiting in children
LC 1218 Sudden infant death syndrome (SIDS)
LC 1219 For parents of SIDS babies (sudden infant death syndrome)
LC 1236 Jake the important child
LC 1237 Play - why and with what
LC 1250 Reyes's Syndrome
LC 1256 How will your child react in an emergency situation
LC 1257 Earache in children
LC 1314 Cancer in children

Drugs and Tobacco

LC 1068 A friend on a bad trip
LC 1069 Marijuana, fables and facts
LC 1090 The Wisconsin Drug Law
LC 1109 How to stop smoking
LC 1127 Is cigarette smoking really dangerous?
LC 1128 Tips to help you quit smoking
LC 1157 Amphetamines
LC 1217 Sopors or quaaludes
LC 1220 Overuse of alcohol hurts your health
LC 1226 LSD - a short report
LC 1266 Living with an alcoholic
LC 1298 Quit cigarettes - live longer
LC 1326 Cocaine

Surgery

LC 1038 Before and after surgery
LC 1056 Having a D & C?
LC 1327 Varicose veins
LC 1328 Varicose vein stripping
LC 1348 Lets talk about hemorrhoids
LC 1349 Hemorrhoidectomy

Infectious Diseases

LC 1078 The botulism story
LC 1082 You've got chickenpox?
LC 1141 The common cold
LC 1146 Lice are not nice
LC 1148 Venereal warts
LC 1149 The itch (scabies)
LC 1153 Will the food I serve cause illness?
LC 1225 Are you protected against polio?
LC 1272 Women and urinary tract infections
LC 1276 Vaginal infections
LC 1279 The flu
LC 1288 Pinworms
LC 1317 Encephalitis from mosquitoes
LC 1320 Rabies and animal bites
LC 1345 Genital herpes
LC 1356 Hepatitis

Diet and Nutrition

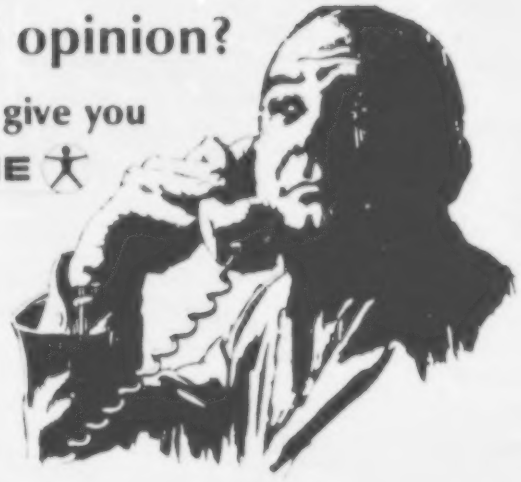
LC 1095 Should my family use iodized salt
LC 1102 Obesity
LC 1112 Diet and heart disease
LC 1150 Food for health
LC 1151 Are you a vegetarian?
LC 1152 Health foods and fad diets
LC 1155 Got a weight problem?
LC 1162 Tips on keeping food safe
LC 1164 Sense and nonsense about calories
LC 1165 The "magic formula" for weight loss
LC 1184 Are you greatly overweight
LC 1192 The low cholesterol diet
LC 1302 Dietary treatment for an ulcer

Eye

LC 1215 Do you know if you have glaucoma?
LC 1216 Should I wear contact lenses?

Would you like a helpful opinion?

Hundreds of specialists are ready to give you information on: HEALTH-LINE



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This is a 24-hour, 7 days a week service.

X-rays, Tests and Services

Good Advice

Safety

For and about Children

Drugs and Tobacco

Surgery

Infectious Diseases

Diet and Nutrition

Eye

Dental

Heart and Circulation

Lung

Diabetes

Urinary Tract

Arthritis

Nervous System

Cancer

Miscellaneous

Figure 2. La Crosse Dial Access Inclusion in La Crosse Lutheran Hospital Almanac, 1977.

HEALTH-LINE

HEALTH-LINE is a service of the University of Wisconsin-Madison Center for Health Sciences and University of Wisconsin-Extension Health Sciences Unit, Department of Continuing Medical Education

Once you have found a subject of interest: (1) Note the code number. (2) Dial 785-0830. (3) Request the message by number.

LA CROSSE AREA SERVICES

LCF 1032 Introducing St. Francis Hospital
LCL 1032 Introducing Lutheran Hospital
LC 1054 Vocational Rehabilitation
LC 5000 La Crosse Co. Comm. on Aging
LC 5001 La Crosse Co. Health Nursing Services
LC 5002 Community Care Organization
LC 5003 Coulee Region Family Planning
LC 5004 La Crosse Health Department
LC 5005 Riverdale Marriage and Family Clinic
LC 5006 Nutrition Program for the Elderly of La Crosse
LC 5007 Birthright: Available Services

X-RAYS, TESTS, AND SERVICES

LC 1001 What is an electrocardiogram (EKG)
LC 1003 Oxygen therapy, what it means to me
LC 1006 Blood Studies
LC 1009 Bladder and kidney X-ray
LC 1015 Blood transfusion and you
LC 1016 An electroencephalogram (EEG)
LC 1029 Physical Therapy
LC 1031 Intravenous Therapy (IV)
LC 1039 Proctosigmoidoscopy
LC 1047 X-ray of your stomach and small intestine
LC 1057 Gall bladder X-ray
LC 1061 Origin of donor blood
LC 1062 Charges for transfusions
LC 1064 Biopsy - what and why
LC 1072 What is respiratory therapy
LC 1073 Glucose tolerance tests
LC 1188 Radiation from X-rays
LC 1267 Urinary catheterization

GOOD ADVICE

LC 1040 Illness and marriage problems
LC 1077 Physical fitness through exercise
LC 1154 No time for exercise?
LC 1166 Before you take the wheel
LC 1264 Are you afraid? I'm afraid!
LC 1.54 Medic Alert could save your life

SAFETY

LC 1087 Prevention of ski injuries
LC 1207 Something in your eye?
LC 1227 Safe snowmobiling?
LC 1231 The friendly wild animal
LC 1233 First aid for frostbite
LC 1234 First Aid for burns
LC 1235 About head injuries
LC 1245 You and your knee
LC 1247 How to get out of a burning home
LC 1249 Home safe home
LC 1253 Outdoor enthusiasts-think hypothermia
LC 1259 Bike riders alert

FOR AND ABOUT CHILDREN

LC 1059 X-rays and your children
LC 1094 Sue has rheumatic fever (For Children's Listening)
LC 1099 Linda has diabetes (For Children's Listening)
LC 1132 Could my child have cancer?
LC 1158 What shots should your child have
LC 1191 My child has a fever
LC 1192 Your child has a bad cold
LC 1200 Your child has sleep problems?
LC 1206 What to do about colic
LC 1211 Diarrhea and children
LC 1212 Vomiting and children
LC 1213 Management of vomiting in children
LC 1218 Sudden infant death syndrome (SIDS)
LC 1219 For parents of SIDS babies (sudden infant death syndrome)
LC 1236 Jake--the important child (For Children's Listening)
LC 1237 Play--why and with what
LC 1246 Christopher Curious (For Children's Listening)
LC 1250 Reyes's Syndrome
LC 1256 How will your child react in an emergency situation
LC 1257 Earache in children
LC 1314 Cancer in children

DRUGS AND TOBACCO

LC 1068 A friend on a bad trip
LC 1069 Marijuana, fables and facts
LC 1090 The Wisconsin Drug Law
LC 1109 How to stop smoking
LC 1127 Is cigarette smoking really dangerous?
LC 1128 Tips to help you quit smoking
LC 1157 Amphetamines
LC 1217 Sopors or quaaludes
LC 1220 Overuse of alcohol hurts your health
LC 1226 LSD - a short report
LC 1266 Living with an alcoholic
LC 1298 Quit cigarettes - live longer
LC 1326 Cocaine

SURGERY

LC 1038 Before and after surgery
LC 1056 Having a D & C
LC 1327 Varicose veins
LC 1328 Varicose vein stripping
LC 1348 Let's talk about hemorrhoids
LC 1349 Hemorrhoidectomy

INFECTIOUS DISEASES

LC 1066 Gonorrhea and women
LC 1078 The botulism story
LC 1082 You've got chickenpox?
LC 1140 VD
LC 1141 The common cold
LC 1146 Lice are not nice
LC 1148 Venereal warts
LC 1149 The itch (scabies)
LC 1153 Will the food I serve cause illness?
LC 1225 Are you protected against polio?
LC 1272 Women and urinary tract infections
LC 1276 Vaginal infections
LC 1279 The flu
LC 1288 Pinworms
LC 1317 Encephalitis from mosquitoes
LC 1320 Rabies and animal bites
LC 1345 Genital herpes
LC 1356 Hepatitis

DIET AND NUTRITION

LC 1095 Should my family use iodized salt
LC 1102 Obesity
LC 1112 Diet and heart disease
LC 1150 Food for health
LC 1151 Are you a vegetarian?
LC 1152 Health foods and fad diets
LC 1155 Got a weight problem?
LC 1162 Tips on keeping food safe
LC 1164 Sense and nonsense about calories
LC 1165 The "magic formula" for weight loss

Figure 3. La Crosse Dial Access Inclusion in University of Wisconsin-La Crosse Student-Staff Directory, 1977

Figure 4. La Crosse Dial Access Brochure, 1977.

dial-a-tape

LA CROSSE COUNTY 785-0830

Free Information at Your Fingertips on:

- Health
- Family Living
- Garden
- Social Issues

This brochure made available through the courtesy of:

LA CROSSE TELEPHONE CORPORATION
Insert in your Telephone Directory

A Service of
UNIVERSITY OF WISCONSIN–EXTENSION

HOW TO USE DIAL-A-TAPE

1. Select the topic you wish to hear.
2. Dial 785-0830
3. Request your tape recording by the assigned number.
4. Service available 24 hours a day, 7 days a week.
5. For more information and brochures contact your UW-Extension Office (785-9593), Courthouse, La Crosse, WI 54601

Figure 5. La Crosse Dial Access Brochure, 1978.

upon benefits received by the clientele due to its one-way informational approach. Total usage computations combined with a frequency-of-use analysis appeared to be the best evaluation technique available. A tabulation of 1978 operations indicated that the system responded to a total of 14,417 requests. By subject matter, 1,130 were for family living information, 1,641 for garden, 265 for social issues, and 11,381 for health. In late June 1978, when the direct mail effort to telephone subscribers began, weekly tabulations jumped from approximately 100 to over 1,000 for a period of five weeks. More important than the strict quantitative analysis, however, the results strongly suggest that the system is responding to the clientele's needs with usable information. As has been accomplished elsewhere, future evaluation procedures for this system could include assessing the characteristics of the callers, reasons for calling, and the resulting changes in knowledge and behavior. Telephone interviews would be one way to ascertain this, but the results would have to be interpreted with caution due to their subjective nature.[3]

Special Considerations

Input from the Community

Community members are able to have input regarding the Dial Access system by contacting a publicized address, as well as through contact with steering committee members. Letters are received which request follow-up information on Dial Access topics. Written responses to these are provided by the appropriate steering committee member, to include suggesting resource people located near the consumer. The intent is to utilize already-existing resources in the community.

Unique Features

The La Crosse Dial Access arrangement has enabled local control to take place through the screening of proposed messages, while at the same time housing none of the equipment in La Crosse. The fixed service line to Madison enables a local telephone number to be utilized, further emphasizing the system's local orientation. In the developmental stages of the program, changes in messages were handled free of charge by the Department of Continuing Medical Education in Madison. With the system now well under way, a charge is made to La Crosse Dial Access for any alterations. During its early stages, periodic steering committee meetings were a key to the success of the system. Detailed summaries of the discussions were distributed, enabling each member to assume a major responsibility for the success and accuracy of the system.

Recommendations

One major recommendation in the continuation of the system is that it become a part of other educational efforts in the community. Service agencies should become familiar with the taped information provided, and incorporate it into their programming.

Another important recommendation is that each informational category listed in Table 1 eventually should have a message review subcommittee in order to retain local involvement and information accuracy.

Also, the steering committee should seek more consumer input, either through direct participation or via established communication channels.

Finally, impact evaluation should be conducted on a periodic basis to ascertain the effectiveness of the system itself, and in conjunction with other educational programming.

References

1 Bartlett, M.; Johnson, A.; Meyer, T. "Dial Access Library-Patient Information Service." New England Journal of Medicine, 288:994-998, May 10, 1973.

2 Wilkinson, G.; Mirand, E.; Graham, S.; Johnson, C.; and Vana, J. "Can-Dial: A Dial Access Cancer Education Service." International Journal of Health Education, 20:158-163, 1977.

3 Wilkinson, G.; Mirand, E.; and Graham, S. "Cancer Information by Telephone: A Two-Year Evaluation." Health Education Monographs, 5.251-264, 1977.

GARDENERS' DIAL ACCESS HOTLINE CONTINUES POPULARITY

James C. Schroeder
Dane County University of Wisconsin-Extension Horticulturist
Madison, Wisconsin

The Dane County University of Wisconsin-Extension Office in Madison, like extension offices throughout the country, has experienced a substantial increase in recent years in home gardener demand. Certainly the increase in leisure time would have to be given as one reason for this increased gardening activity. Also, higher food prices have created a large increase in the number of people raising vegetable gardens.

A garden dial access project was initiated in Dane County in the spring of 1974 because of the great demand for horticultural information. It was no longer possible for one horticulturist to do an effective job of answering all the gardening and related questions coming into the extension office. For several years the tapes were also made available to other dial access communities.

The garden tapes are part of UW-Extension Dial-A-Tape and are available to the public via the telephone. Presently the system provides a 24 hour a day, 7 days a week service to residents of Dane, Rock, LaCrosse, Fond du Lac, and Sheboygan counties. Portions of the bank of tapes are also available to people residing in Marathon, Eau Claire, and Oneida counties and in the River Falls area. Most of the tapes are two to four minutes in length. Topics include house plants, flowers, vegetables, fruit, lawns, ornamentals and landscaping and house pests.

The dial access system was nothing new to many Wisconsin residents. However, it was new to gardeners. For several years, taped libraries have been available to doctors, nurses, students, and others through the University of Wisconsin Telecommunications Center. The gardening tapes were simply added to this existing library of tapes.

In order to use the dial access system, the gardener must have a listing of the available tapes which are all numbered. In the case of a Dane County user, he or she dials 263-3100. When the operator answers, the tape must be requested by the number. When the tape has finished playing you are automatically disconnected. If the user wishes to hear more than one tape he or she must call the operator for each tape. However, this is not a problem, as it is a toll free number for Dane County residents.

Dial access was an addition to an already ongoing horticulture extension program being conducted in Dane County. New stories, radio shows, TV appearances, individual phone consultations, homeowner clinics, and garden center training are all programs which were previously being provided. Dial access has some advantages over all the other programs in that it can:

* Answer specific questions when needed. (Evenings and weekends when people are working)
* Can help large numbers of people.
* Once tapes are prepared, takes little time of the horticulturist.
* Saves money as it would be impossible for such great numbers of inquiries to be handled without adding additional staff.

Constant promotion has been the real key to the success of the program. Radio, TV, and newspapers have been used to advertise the dial access garden tapes. Newspapers appear to be the most effective. The most calls are received when newspapers carry special stories on the program along with a listing of the garden tapes.

Due to the tremendous acceptance of the garden tapes, canning and freezing tapes were

added later in 1974.

During 1975, a very extensive telephone survey was done to evaluate the success of the Dane County gardening and food preservation dial access project. Random users were asked their phone numbers by the operator on duty. At a later date these numbers were called back and asked a series of questions regarding their use of dial access.

The telephone survey showed:

- 95% of the callers listened to the entire message.
- 94% of the callers were satisfied with the tape information service.
- Close to 70% of callers said the tape message gave them the information they wanted.
- 92% of callers said the tape message was easy to understand.
- 84% of callers said they shared the information with 1 or more people.
- 60% of callers were in the 20-40 years of age group.
- 64% of callers had never attended a meeting sponsored by University Extension.
- 47% of callers were not aware of the services offered by the Dane County Extension Office.
- 60% of callers had never called the Dane County Extension Horticulturist.

Now in its sixth year of operation in Dane County, Dial-A-Tape continues to be a popular "friend" of area gardeners. More than 8,000 calls were received in 1978. Among the most popular of the 139 gardening tapes are:

--2464 When To Plant Vegetables

--2475 Setting Out Tomato Plants

--2468 Making Compost

--2471 Mini-Vegetable Garden

--2497 Planting Strawberries

--2514 Apple Varieties

--2516 How To Prune Apple Trees

--2525 Seeding A Lawn

--2529 Watering Lawns

--2496 Organic Gardening and Disease Control

In addition to the gardening and food preservation topics, tapes are also now available in energy conservation, consumer information, child development, social issues, nutrition, music, motor vehicle information and law.

HOW TO USE

DIAL-A-TAPE

1. **Select tape you wish to hear**
2. **Dial 263-3100**
3. **Request tape BY NUMBER**
4. **Service available 24 hours a day - 7 days a week**

GARDEN TAPES

HOUSE PLANTS

2410 PRUNING HOUSE PLANTS
2402 PROPER LIGHT FOR HOUSE PLANTS
2403 PROPER HUMIDITY FOR HOUSE PLANTS
2404 WATERING HOUSE PLANTS
2405 FERTILIZING HOUSE PLANTS
2406 CLEANING FOLIAGE ON HOUSE PLANTS
2407 WHEN TO REPOT HOUSE PLANTS
2408 HOUSE PLANT SOIL
2409 ARTIFICIAL LIGHTS FOR HOUSE PLANTS
2411 YELLOWING LEAVES ON FOLIAGE PLANTS
2413 HOUSE PLANT CONTAINERS
2414 GROWING AFRICAN VIOLETS
2415 STARTING NEW AFRICAN VIOLETS
2416 AMARYLLIS CARE
2417 AZALEA CARE
2418 POINSETTIA CARE
2419 RE-BLOOM YOUR POINSETTIA
2420 CARE OF CUT FLOWERS
2421 EASTER LILY CARE
2422 TUBEROUS ROOTED BEGONIAS
2423 CHRISTMAS CACTUS
2424 HYDRANGEA CARE
2425 POTTED TULIPS AND DAFFODILS
2427 CONSTRUCTING A TERRARIUM
2428 MISTAKES MADE WITH TERRARIUMS
2429 AIR LAYERING
2431 FORCE TWIGS FOR WINTER FLOWERS

FLOWERS

2432 STARTING ROSES
2433 FERTILIZING ROSES
2434 PROTECT ROSES FOR WINTER
2435 UNCOVERING ROSES
2436 CUTTING ROSES
2437 INSECT AND DISEASE CONTROL OF ROSES
2438 WHEN TO START ANNUAL FLOWERS INDOORS
2439 HOW TO START ANNUALS INDOORS
2440 SOWING FLOWER SEEDS OUTDOORS
2441 PLANTING OUT ANNUALS IN THE SPRING
2444 PLANNING A FLOWER BORDER
2445 COVERING PERENNIALS FOR WINTER
2446 DIVIDING PERENNIALS

2447 STARTING TUBEROUS BEGONIAS
2448 GROWING CHRYSANTHEMUMS
2449 DIVIDING IRIS
2450 THE IRIS BORER
2451 STARTING NEW DAHLIA PLANTS
2452 SUMMER CARE OF DAHLIAS
2453 STORING DAHLIA ROOTS
2454 PLANTING TULIPS AND DAFFODILS
2455 CARE OF TULIPS AND DAFFODILS AFTER BLOOMING
2456 PLANTING PEONIES
2457 PEONY BLIGHTS
2412 GROWING PETUNIAS
2459 GROWING GERANIUMS
2426 SAVING GERANIUMS OVER WINTER
2460 FLOWER BOXES
2461 HANGING BASKETS
2410 BASIC FLOWER ARRANGING IDEAS

VEGETABLES

2458 SELECTING YOUR GARDEN SITE
2462 SAMPLING GARDEN AND LAWN SOIL
2463 STARTING VEGETABLE SEEDLINGS INSIDE
2464 WHEN TO PLANT VEGETABLES
2465 MID-SUMMER VEGETABLE PLANTINGS
2466 SAVING VEGETABLE SEED
2467 FERTILIZING THE VEGETABLE GARDEN
2468 MAKING COMPOST
2469 WHEN TO HARVEST VEGETABLES
2470 VEGETABLE STORAGE TIPS
2471 MINI-VEGETABLE GARDEN
2472 CONTROLLING GARDEN WEEDS
2473 GROWING TOMATOES
2474 SELECTING SMALL FRUITED TOMATO VARIETIES
2475 SETTING OUT TOMATO PLANTS
2476 PRUNE AND STAKE TOMATOES
2477 BLOSSOM END ROT OF TOMATOES
2478 LEAF SPOTS AND BLIGHTS OF TOMATOES
2479 HARVESTING TOMATOES
2480 GROWING ASPARAGUS
2481 GROWING RHUBARB
2482 GROWING POLE BEANS
2483 START VINE CROPS INDOORS
2484 CAN VINE CROPS CROSS?
2485 SNAIL AND SLUG CONTROL
2486 GROWING PEAS AND BEANS
2487 GROWING AND DRYING HERBS
2488 GROWING LEAFY VEGETABLES
2489 GROWING CABBAGE, BROCCOLI, BRUSSELS SPROUTS, AND CAULIFLOWER
2490 GROWING PUMPKIN AND SQUASH
2491 HARVESTING SQUASH
2492 GROWING SWEET CORN
2493 GROWING POTATOES
2494 GROWING AND HARVESTING GOURDS
2495 GROWING AND HARVESTING ONIONS
2496 ORGANIC GARDENING AND DISEASE CONTROL

FRUIT

2497 PLANTING STRAWBERRIES
2498 STRAWBERRY VARIETIES
2500 MULCHING STRAWBERRIES
2501 STRAWBERRY PEST CONTROL
2502 CONTROLLING STRAWBERRY DISEASE
2499 POST-HARVEST STRAWBERRY CARE
2503 GROWING PEARS
2504 HARVESTING AND STORING PEARS
2505 RED RASPBERRY VARIETIES
2506 PRUNING AND TRAINING RED RASPBERRIES
2507 RASPBERRY PEST CONTROL
2508 GROWING CURRANTS AND GOOSEBERRIES
2509 GROWING GRAPES
2510 PRUNING GRAPES
2511 PLUMS FOR WISCONSIN
2512 SOUR CHERRY VARIETIES
2513 GROWING BLUEBERRIES
2514 APPLE VARIETIES
2515 TRAINING YOUNG APPLE TREES
2516 HOW TO PRUNE APPLE TREES
2517 APPLE PEST CONTROL
2518 STORING APPLES
2519 WHY FRUIT TREES FAIL TO BEAR
2520 GRAFTING FRUIT TREES
2521 PREVENTING MICE AND RABBIT DAMAGE
2522 HARVESTING NATIVE NUTS

LAWNS

2525 SEEDING A LAWN
2526 LAWN SEED MIXTURES
2528 MID-SUMMER LAWN CARE
2529 WATERING LAWNS
2530 FERTILIZING LAWNS
2527 BARE SPOTS IN LAWNS
2531 BROADLEAF WEED CONTROL
2532 MOSS IN LAWNS
2533 CONTROLLING CRABGRASS
2534 MUSHROOMS IN LAWNS
2535 THATCH IN THE LAWN
2536 CONTROLLING QUACKGRASS AND BENTGRASS
2537 SHOULD I LIME MY LAWN?
2538 CORRECT MOWING HEIGHT
2539 GROWING GRASS IN THE SHADE
2540 SODDING A LAWN
2541 IDENTIFYING LAWN DISEASE PROBLEMS
2542 FUSARIUM BLIGHT DISEASE OF LAWNS
2543 MILDEW DISEASE OF LAWNS
2544 LEAF SPOT DISEASE OF LAWNS
2545 MOLES IN LAWNS
2546 LAWN INSECTS

ORNAMENTALS AND LANDSCAPING

2550 LANDSCAPE PLANTS THAT ATTRACT BIRDS
2551 LANDSCAPE PLANTS FOR SHADY AREAS
2552 LANDSCAPE PLANTS FOR WET SOILS
2555 FERTILIZING TREES AND SHRUBS
2547 GROWING TREES AND SHRUBS FROM SEED
2556 PLANTING NURSERY STOCK
2557 HEDGES
2560 GROUND COVERS
2561 VINES FOR THE LANDSCAPE
2558 PRUNING OVERGROWN SHRUBS
2559 PRUNING EVERGREENS
2562 SELECTING FLOWERING CRABS
2563 KEEPING THE FLOWERING CRAB BEAUTIFUL
2553 PROTECT LANDSCAPE PLANTS FROM WINTER INJURY
2554 PROTECT TREES DURING CONSTRUCTION
2565 FALL NEEDLE DROP ON EVERGREENS
2569 DUTCH ELM DISEASE
2564 TREES TO REPLACE THE ELMS
2567 BUMPS ON MAPLE TREES
2568 BIRCH TREE PROBLEMS
2571 BORERS OF WOODY PLANTS
2566 PREVENT RABBIT DAMAGE ON ORNAMENTALS
2570 OAK WILT DISEASE
2574 MY OAKS ARE DYING
2572 GROWTHS ON SPRUCE TREES
2573 INSECT PESTS OF HONEY LOCUST
2575 WINTER SALT DAMAGE

HOUSE PESTS

2580 CONTROLLING CARPET BEETLES
2581 CONTROLLING LARDER BEETLES
2582 CONTROLLING ANTS
2584 CONTROLLING PANTRY PESTS
2583 CONTROLLING SPIDERS
2585 CONTROLLING COCKROACHES

DIAL ACCESS MOVES INTO THE KITCHEN

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Introduction

Dial-A-Tape is a telephone tape library available to residents of several Wisconsin counties. The focus here will be on the dial tapes available in the food preservation area.

Through dial access, citizens are able to listen to a 3 to 5 minute recorded message by simply calling their local dial library and asking for a specific tape number. This tape system makes audio material easily available and provides consumers with instant information on a variety of topics, including over 300 tapes on food preservation and gardening.

The dial access system fits into University of Wisconsin-Extension's total outreach program. Here, that continuing education outreach is in the form of an innovative mechanism which can disseminate immediate, capsuled educational information at the twirl of a telephone dial.

The objective of this dial access project is to make up-to-date, safe information available to the public on food preservation. Another purpose is to make citizens aware of services available from the local county Extension office.

When the project was implemented in late 1973 and early 1974, there was an increased interest among families in gardening. With high food prices and the desire on the part of the young to experience gardening, the public was seeking more and more help in food preservation. The need for programming in this area became obvious almost overnight.

People were asking numerous "how to" questions about canning and freezing garden produce. Coupled with this was the more serious problem of educating people about the safety aspects of food preservation. The genuine interest of the young to go back to grandma's way of doing things was of concern in light of what is known about the dangers of food poisoning today.

Dial access was chosen as one way to extend county home economist's capabilities for communicating this needed information to consumers on an individual, immediate basis. It was felt that system would also save consumers valuable time and provide them with basic, factual groundwork on particular topics.

Tape Development

As the University of Wisconsin-Extension Food and Nutrition Specialist, I authored the first 123 dial access scripts. The Dane County Extension Home Economist, Janet Floeter, and I produced these tapes in the Instructional Communications System's studios in Old Radio Hall on the University of Wisconsin-Madison campus.

Each tape is a one-concept approach and answers frequently asked questions received by county home economists. Tapes, for example, are available on canning snap beans, defrosting the freezer, freezing tomatoes, making dill pickles and many more. The following is a breakdown of the 148 tapes on food preservation and safety:

Canning	39
Canning or freezing	5
Freezing	47
Jellies and Jams	15
Pickles and Relishes	13
Food Safety	6
Food Storage	10
Kitchen Safety	4
Miscellaneous Food Items	9

Because of consumer questions on removing spots and stains, 9 tapes on this subject are also included. Four tapes have also been added on nutrition.

Integrated Programming

The dial access service has been integrated into ongoing horticulture and food preservation programs. These programs continue to encompass news stories, radio shows, television appearances, individual telephone consultations, homeowner clinics, garden center workshops, food clinics and a variety of printed materials. Promotion has been one main key to the success of this dial access service. Radio and television stations have been most cooperative and have been used as sources of publicity during Extension programs and faculty appearances. Newspaper feature stories have been especially helpful as they often incorporate the entire list of tapes. In addition, each year a brochure listing all available tapes has been distributed free by the County Extension office to consumers, businesses and at meetings.

The food preservation tapes have also been used with the University of Wisconsin Extension Family Living Low-Income Food and Nutrition traveling trailer. These were used for individual listening and over the loudspeaker for public hearing. Many of these tapes have been used by Extension home economists, statewide, in meetings on food preservation.

A complete set of dial access food preservation tape scripts is also compiled annually and sent to each Wisconsin Extension home economist for a quick reference. This notebook/handbook is known as "The Dial Access Handbook." This reference has been one of the great innovative moves to assist Extension home economists statewide.

Up-Dating

Each year the tape library service is reviewed. Individual tapes are up-dated as subject matter research directs and new tapes on pertinent subject matter were added. All tapes are prepared by the state Extension subject matter specialists.

Evaluation

We cannot say that the dial access tapes have lessened the number of phone calls to the county Extension offices or the University Food and Nutrition office. There is evidence, however, of a change in the level of questions. Consumers appear to have greater awareness of the necessity of properly harvesting, handling, preserving and storing of fresh produce and of the need for proper sanitation.

Summary

From my personal view as an educator, the effort of preparing, timing and producing these dial access tapes has been well worth it. Dial access has been one of the best "tools" available to get food preservation, sanitation and food safety subject matter to consumers. Through personal contacts, meetings, workshops, clinics and mass media we have been able to refer to this service and encourage consumers to use it. Through call statistics and caller evaluations, we know we have been able to reach consumers with more accurate, up-to-date information than we previously have been able to reach.

I hope that, before my professional career ends, I will be able to see this University of Wisconsin-Extension outreach service available to every consumer in Wisconsin.

HOW TO USE

DIAL-A-TAPE

1. **Select tape you wish to hear**
2. **Dial 263-3100**
3. **Request tape BY NUMBER**
4. **Service available**
   24 hours a day - 7 days a week

FAMILY LIVING TAPES

CANNING

2602 CANNING EQUIPMENT
2603 BUYING A PRESSURE CANNER
2604 USING YOUR PRESSURE CANNER
2606 TESTING YOUR PRESSURE CANNER DIAL GAUGE
2605 CANNING WITH A PRESSURE SAUCE PAN
2607 BOILING WATER BATH CANNER
2608 CANNING JARS
2609 CHOOSING LIDS FOR CANNING
2610 HOW TO CAN VEGETABLES
2611 HOT VS RAW PACK CANNING METHOD
2612 CANNING WITH SWEETENERS
2613 SYRUPS FOR CANNING
2614 SUGAR-FREE CANNING
2615 CANNING BABY FOODS
2618 REASONS FOR LIQUID LOSS FROM JARS
2619 WHY LIDS DON'T SEAL
2620 UNSAFE METHODS FOR CANNING
2617 HOW TO KEEP FRUITS FROM FLOATING
2621 CANNING APPLES AND APPLESAUCE
2622 CANNING CARROTS
2623 CANNING CORN
2624 CANNING DRIED BEANS
2625 CANNING FRUITS AND JUICES
2626 CANNING MEAT, FISH AND POULTRY
2627 CANNING FISH
2628 CANNING SNAP BEANS
2629 CANNING SOUP AND MIXED VEGETABLES
2630 CANNING TOMATOES
2631 CANNING TOMATO PRODUCTS
2632 CANNING PEPPERS AND PIMENTOS
2633 CANNING SOYBEANS
2634 REASONS WHY CANNED FOODS SPOIL
2635 GUARD AGAINST CANNED FOOD SPOILAGE
2636 BOTULISM
2637 BROWNISH DISCOLORATION OF CANNED FRUIT
2638 PINK OR OTHER DISCOLORATION IN CANNED FOODS
2640 CLOUDINESS IN LIQUID OF CANNED FOODS
2642 HOW LONG ARE HOME CANNED FOODS SAFE?
2643 IS IT SAFE TO USE FROZEN CANNED FOODS?

FREEZING

2644 WHAT AND HOW TO FREEZE FOODS
2645 FOODS NOT TO FREEZE
2647 BASIC STEPS FOR FREEZING
2651 BUYING A HOME FREEZER
2652 FREEZER MANAGEMENT
2653 LOADING YOUR FREEZER
2655 DEFROSTING THE FREEZER
2656 WHEN THE POWER GOES OFF
2657 THAWING DAMAGE TO FROZEN FOODS
2658 MAY THAWED FOODS BE USED?
2659 REFREEZING
2660 DON'T COLLECT ANTIQUES IN YOUR FREEZER
2662 FREEZING FRUITS
2663 SUGAR-FREE FREEZING
2664 PREVENT DISCOLORATION IN FREEZING
2665 FREEZING APPLES AND APPLESAUCE
2666 FREEZING GRAPES, FRUIT COCKTAIL, MELONS
2667 FREEZING BERRIES
2668 FREEZING BLUEBERRIES, ELDERBERRIES, HUCKLEBERRIES, AND CRANBERRIES
2669 FREEZING CHERRIES
2670 FREEZING PEARS AND PEACHES
2671 FREEZING RASPBERRIES AND STRAWBERRIES
2672 FREEZING RHUBARB
2674 FREEZING VEGETABLES
2675 HOW TO BLANCH VEGETABLES
2676 WHY BLANCH VEGETABLES?

2678 FREEZING ASPARAGUS
2679 FREEZING BEANS - GREEN AND WAX
2680 FREEZING BROCCOLI AND BRUSSELS SPROUTS
2681 FREEZING CABBAGE, CARROTS, MIXED VEGETABLES
2682 FREEZING CORN
2683 FREEZING SPINACH AND OTHER GREENS
2684 FREEZING CELERY AND ONIONS
2685 FREEZING HERBS (EG, DILL), CHIVES, LEEKS
2686 FREEZING MUSHROOMS
2687 FREEZING TOMATOES
2688 FREEZING EGGPLANT
2689 FREEZING PEPPERS AND PIMENTOS
2690 FREEZING EGGS
2691 FREEZING BAKED GOODS
2692 FREEZING DAIRY PRODUCTS
2693 FREEZING FISH
2695 FREEZING MEAT AND POULTRY
2696 FREEZING PIES AND PASTRY
2697 FREEZING SALADS
2698 FREEZING SANDWICHES
2616 PREPARING AND FREEZING BABY FOODS

CANNING OR FREEZING

2699 PRESERVING BEETS
2700 PRESERVING PEAS AND EDIBLE PODS
2701 PRESERVING POTATOES
2703 PRESERVING WINTER SQUASH AND PUMPKINS
2704 PRESERVING ZUCCHINI AND SUMMER SQUASH

JELLIES AND JAMS

2705 THE FAMILY OF JELLIES AND JAMS
2706 MAKING JELLY
2708 FRUITS FOR MAKING JELLY
2709 MAKING JUICE FOR JELLY
2710 MAKING JELLY WITHOUT ADDED PECTIN
2712 MAKING JAM AND JELLY FROM FROZEN FRUIT
2707 WHAT TO DO WITH FROZEN SWEETENED STRAWBERRIES
2713 HOW TO MAKE FROZEN JELLIES
2714 USING HONEY AND CORN SYRUP IN JELLY
2715 COMMON JELLY PROBLEMS
2716 HOW CAN SOFT JELLY BE MADE FIRM
2717 CAUSES OF FAILURES IN JELLIES
2718 WEEPING JELLY UPON STORAGE
2719 MAKING JAM
2720 UNCOOKED JAM

PICKLES AND RELISHES

2721 PICKLES AND RELISHES
2722 EQUIPMENT FOR PICKLING
2723 METHODS FOR PICKLING
2724 CHOOSING CUCUMBERS
2725 WATER AND SALT BRINE
2726 VINEGAR FOR PICKLING
2727 SUGAR AND SPICES FOR PICKLING
2728 MAKING DILL PICKLES
2729 SOUR AND SWEET PICKLES
2730 BRINED OR CURED PICKLES
2731 WHAT CAUSES POOR QUALITY PICKLES?
2732 PICKLING PROBLEMS
2639 PICKLING VEGETABLES

FOOD SAFETY

2201 CROSS CONTAMINATION IN FOODS
2202 POOR FOOD HANDLING CAN CAUSE FOOD POISONING
2203 TIME-TEMPERATURE RELATIONSHIPS: LIFE BEGINS AT 40 F.
2204 WHY? NO STUFFING TURKEY?
2205 YOU AND FOOD SAFETY: ARE YOU A FINGER-LICKER?
2206 KITCHEN WHODUNITS

FOOD STORAGE

2215 ON-THE-SHELF STORAGE
2216 REFRIGERATION - WHAT A BLESSING!
2217 DRYING FOOD
2218 OVEN DRYING
2219 STORING ROOT VEGETABLES: CARROTS, ONIONS, POTATOES
2220 STORING SQUASH AND PUMPKINS
2221 STORING TOMATOES AND PEPPERS
2222 STORAGE OF EGGS, EGG DISHES AND MILK PRODUCTS
2223 STORAGE OF FRESH FISH, MEAT AND POULTRY
2224 STORAGE TO AVOID PANTRY PESTS

KITCHEN SAFETY

2235 CAN YOUR ''COOK'S CORNER'' PASS A HEALTH INSPECTION?
2236 WHY SHOULD YOU BE CONCERNED WITH COOKWARE CARE?
2237 WHAT DO YOU USE IN YOUR CLEANUP CENTER?
2238 HOW DO YOU HANDLE WASTE?

MISCELLANEOUS

2250 MAKING HORSERADISH
2251 MAKING SAUERKRAUT
2252 PRESERVING HERBS
2253 PRESERVING SUNFLOWERS, PUMPKIN SEEDS, POPCORN
2254 PRESERVING NUTS
2255 CAN MONEY BE SAVED BY BUYING IN LARGE QUANTITIES - LIKE A SIDE OF BEEF?
2256 CARE OF WILD GAME
2641 USING HONEY IN FOOD PREPARATION
2646 SWEETENER SUBSTITUTES

REMOVING SPOTS AND STAINS

2270 REMOVING CANDLE WAX FROM CARPETING
2271 REMOVING CANDLE WAX FROM TABLE LINENS
2272 REMOVING URINE STAINS FROM CARPETS AND RUGS
2273 REMOVING PERSPIRATION STAINS
2274 REMOVING BALLPOINT PEN INK STAINS
2275 REMOVING COFFEE, TEA, FRUIT JUICE, SOFT DRINK, ALCOHOL AND WINE
2276 REMOVING MILDEW - WASHABLE CLOTHING
2277 REMOVING MILDEW - MATTRESSES, UPHOLSTERED ARTICLES
2278 REMOVING GREASE STAINS
2279 HOME DYEING
2280 FLOOR WAXING PROBLEMS

ADDITIONAL INFORMATION

2601 WHERE TO GO FOR HELP - RESOURCES AVAILABLE

TEL:MED

RECORDED HEALTH AND MEDICAL INFORMATION

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Of all the qualities dial access systems offer, one of the most essential aspects is the capability of providing immediate access to a bank of vital information for the consumer. And what library of material could be of greater community service than one containing the most current messages on basic health care concerns--an area not only much in demand but also one where currently access is often either difficult to acquire or expensive.

An answer to the inherent void in the availability of this knowledge is Tel-Med, a tape library of health and medical information developed by the San Bernardino County (California) Medical Society. This system has provided American consumers nationwide with much needed information for over seven years--freeing physicians from spending valuable time repeating answers to the same basic questions while giving the consumer the hard facts about health care.

The San Bernardino County Medical Society development of Tel-Med has triumphed over early financial question marks to a state where Tel-Med, Inc., a non-profit corporation, is now financially stable and acts as a national clearinghouse for health care information in coordinating the expansion of Tel-Med programs throughout the country.

This stability, however, was reached only after years of struggle to gain recognition and support. Tel-Med began October 1, 1971 in San Bernardino. The first six months were spent in developing an initial library of 54 tapes--many drafted from available published sources such as the California Medical Association's "Health Tips"-- and in the mechanical facets of tape production and telephone/switchboard installation.

Original Tel-Med Program

The program was made available to the local public on April 1, 1972. During the first eight months of operation, over 35,000 health care messages were requested and played for the approximately 400,000 area consumers who could call Tel-Med via the existing toll free telephone system. Publicity during this period consisted primarily of newspaper articles and public service announcements on radio.

More extensive publicity was released during that first Tel-Med program's eighth month of existence when brochures listing the entire tape library available at that time were distributed throughout many area doctors' offices. The community response to this action was impressive. Nearly 60,000 calls to Tel-Med were logged over the ensuing 100 day period--an indication of the consumer participation to be expected when Tel-Med became more universally accepted.

Financial support of this development was granted by several of the most prestigious health care organizations, in supplement to the San Bernardino County Medical Society. These included the now defunct California Regional Medical Program, the California Medical Association, the American Medical Association, and later the U.S. Department of Health, Education and Welfare. The intent behind this money was to finance the continued development and refinement of the tape library and to further the expansion of Tel-Med nationwide.

This backing arrived at a crucial time. Most urgently support was needed for the staff to continue their projects, but at the same time Tel-Med was becoming desirable enough to be

sought by other health care agencies as a health education tool for their communities.

Tel-Med Popularity Grows

The first of these was the San Diego County Medical Society, who assisted in the development of selected tapes on smoking and cancer. Other programs were soon implemented by the Indiana State Medical Association in Indianapolis, the West Oakland Health Center in the San Francisco Bay area, Pennsylvania State University, and several other California organizations.

At the same time, expansion was developing in yet another area--the tape library itself. When a group of physicians were polled during 1972 and asked to suggest topics for inclusion into the library, over 500 separate topics were presented. Even more impressive was the fact that 200 physicians offered to author scripts.

This wealth of medical sources willing to participate in development also necessitated the addition of personnel. The one time relatively small staff expanded at its most productive period to include 12 employees, all at least indirectly involved in the process of script development.

Tape Library Expansion

Over a period of about three years the library size expanded to 300 tapes. Approximately 200 had been translated into Spanish, and a companion Tel-Hospital system had been developed to experiment in the area of health care messages for hospital patients. The number of Tel-Med programs during that stage increased to nearly 50.

Basically, Tel-Med at that time began to resemble much more the appearance of its present state. However, before getting into the specifics of each of these areas of expansion, let's examine the technical side of Tel-Med which has been instrumental in assuring the high quality of Tel-Med service.

Switchboard Operation

First of all, we'll take a look at the switchboard itself. Initially, the San Bernardino program employed a "Spotmaster Ten Spot" manufactured by Broadcast Electronics, Inc. This machine featured 10 individual tape decks, arranged in two rows of five, in which an operator could place a selected tape to be played through a telephone interconnection for the caller.

The tapes used at that time were an earlier version of the current broadcast cartridge utilizing an endless loop. These earlier tapes had a speed of 7½ IPS and a 1000 cycle cue tone geared to end the message. The machine's stereo format contained the program on one channel and the cue tone on the other.

The manual operation of this early equipment was similar but more cumbersome than the current system. Rather than delve into these differences, we'll explore the simplicity of the newer system shortly.

At the present time, Tel-Med programs employ playback equipment manufactured by Teletronix Information Systems, a division of the major electronics manufacturing firm United Recording Electronics Industries.

The switchboard (Teletronix 1500 Series) is comprised of modular units, each with the capability of playing one message for the caller, up to a maximum of 15 units. The required size of the switchboard is determined by the following chart:

Population Size	Minimum # of Units
20,000 - 40,000	2-3
40,000 - 60,000	3-4
60,000 - 100,000	5
100,000 - 500,000	10
more than 500,000	15

Simplicity Is The Key

Very simply, when the call comes through to any of the lines linked in a rotary telephone interface network, a ring and flashing light will indicate the call (see picture). The operator will depress the indicated lighted button, ask the caller for the tape selection, locate the tape in a nearby storage rack (also a Teletronix product), and insert the tape into the appropriate deck.

Volunteer Tel-Med Operator logs an incoming call to the library of more than 300 tapes on a variety of health care topics.

That's all there is to it. When the tape is complete, the cue tone will alert the deck to stop and disconnect the call. Both the tape deck and tape are ready to be used again. (Newer tapes run at speeds of 3 3/4 IPS and use 25 cycle cue tones).

The simplicity of this procedure permits Tel-Med programs to drastically cut operating costs by allowing volunteers with minimal training to handle incoming calls. Teletronix's (and UREI's) nationwide service contacts have also minimized what little maintenance problems and down time have been experienced by Tel-Med programs. Considering everything, the status of technical equipment is certainly stable.

Development of Tape Production

The development of the Tel-Med recording studio is yet another story in itself. Originally the tapes were recorded in what could be considered a standard office setting, using an amateur portable reel-to-reel tape recorder and a table microphone. Two major changes since that time have upgraded the studio to the modern facility which boasts the latest in recording equipment and sound insulation.

Initially of immediate importance was the need to build a recording studio. The first step involved improvising a studio in the rented hotel suite where the original Tel-Med offices were located. The situation required an isolated narration booth, and a separate control room for the recording equipment.

As a makeshift temporary facility the booth was improvised out of a bathroom in the suite, with a foam sheet tacked to the wall for insulation. The outer room became the control room. This "temporary" condition (which lasted for nearly five years) was adequate for tape production, allowing for the cessation of recording sessions whenever the noise level from water pipes and air conditioning units reached a peak.

Equipment-wise, this first actual studio made tremendous headway. Over a period of years the following equipment was acquired:

Reel-to-Reel Tape Recorders

Sony TX-850
Ampex 350 (Two)

Microphone

Sony ECM-22

Mixer

Shure 4-channel

Leveling Amplifier

UREI LA-3A

Monitor Speaker/Amp

Ampex AAG20

The upgraded equipment increased studio capabilities tremendously. It provided the ability to produce trailers, referrals, deletions and other editing functions, as well as make copies of all tapes. These factors were absolutely essential in keeping up with the rapid expansion of the Tel-Med programs.

At that time and still today, Teletronix Information Systems was engaged in the reproduction of tapes from their reel format to the standard broadcast cartridge now used by all Tel-Med programs. Experience has found these "carts" to be the best answer to questions of durability and integration into a dial access system.

Relocation And Improved Facilities

The recording and reproduction arrangements were satisfactory and would have remained much the same today if both organizations had not relocated. Teletronix's move allowed them to upgrade their reproduction facility to their current modern status and Tel-Med, with advent of parent San Bernardino County Medical Society's new building, found a means to revolutionize their recording facility to meet the future needs of a demanding program.

A new studio was specially designed from the ground up for the production of Tel-Med tapes, engineered by an expert in recording studio construction. A separate slab of concrete was poured to prevent transient noise from penetrating into the studio. This supported a double-walled, "room within a room" design for maximum sound insulation. Other insulation features included slanted walls and ceiling tile, and improved electrical and ventilation systems.

The narration booth itself contained baffles strategically located to provide the proper mix of absorbtive and reflective surface. These were comprised of staggered wooden grating covering two inches of specially designed acoustical material. In all, these modernized features of the new studio provided the optimum recording and listening environment for producing Tel-Med tapes.

Tel-Med, Inc. Recording Engineer and one of a selection of narrators produce a Tel-Med tape in the new studio.

With the construction of the new studio came the acquisition of the "state-of-the-art" recording equipment currently in use. These additions now include:

Reel-to-Reel Tape Recorders

Ampex 350
Ampex 440

Microphone

Sennheiser MD-421

Mixer

Teac Model 3

Monitors

JBL 4311 (Two)
Macintosh Amplifier

Combined studio and equipment improvements added capabilities for more efficient recording, duplicating and editing, as well as providing storage for the continually expanding library of tapes. With an increase to nearly 200 programs, this too is a factor not to be underestimated.

Quality Control of Tape Content

The development and updating of tape content is the most critical function of the Tel-Med program. Regardless of the ancillary mechanics involved in getting the message to the consumer, it is that message itself which carries the key to the success of Tel-Med. Instrumental in assuring the quality of the health care messages have been the many reputable sources employed in script development, ranging from American Medical Association publications to the more than 200 physician members of the San Bernardino County Medical Society. It is through the repeated scrutiny of these volunteer sources that Tel-Med messages have reached their current peak of efficiency.

At present there are over 300 tapes available on a variety of topics ranging from cancer to first aid to plastic surgery (see brochure). Each of these is reviewed annually (although many even more frequently) by a physician committee to ensure accuracy. The tapes are also reviewed by medical specialists outside of this scheduled process as representatives of implementing Tel-Med programs who are screening the tapes for selection. Through this practice the tapes undergo continual review, and when revisions are required, the tape will be updated and made available to all Tel-Med programs.

Much the same mechanics exists for assistance in tape development. Although Tel-Med, Inc. complements the existing library with several additional tapes each year, operating Tel-Med programs can also be exploited for the original messages they develop for their respective communities. After screening and possible revision, these tapes might benefit the system as a whole. With this comprehensive coordination of tape development and review, Tel-Med can function as a national clearinghouse for health care information.

The most popular but not necessarily the most beneficial tapes have consistently been those concerning topics of sexuality. Although many of the calls for these tapes can be attributed to their controversial nature, they are effective in introducing callers to Tel-Med and to the nature of the messages themselves. A list of the top 10 Tel-Med tapes of any given program may read:

1.	No. 137	Marijuana
2.	No. 1	Vasectomy
3.	No. 15	Syphilis
4.	No. 12	Am I Really Pregnant?
5.	No. 400	Tommy Gets His Tonsils Out
6.	No. 8	Venereal Disease
7.	No. 174	Masturbation
8.	No. 16	Gonorrhea
9.	No. 898	Female Sexual Response
10.	No. 55	The Pill

Anonymity--An Important Aspect

An additional factor in the popularity of these tapes lies in the caller's anonymity. Callers can gain access to factual information on personal topics which they might not even wish to discuss with their own family or physician, and do not need to reveal their identity in the process. This too is an essential facet of the Tel-Med concept.

Every consumer has access to Tel-Med, simply by calling the nearest program. However, only about one third (approximately 80 million) of all Americans can call a nearby program toll free. The continued expansion of Tel-Med nationwide will increase the availability of the system and its total amount of usage. Currently almost one million calls are received monthly by Tel-Med programs nationwide. The larger programs boast in excess of 30,000 monthly calls.

TEL-MED TAPE LIBRARY / (714) 825-7000

PLEASE REQUEST EACH TAPE BY NUMBER

429 What Is Tel-Med?

ALCOHOL PROBLEMS
942 Alcoholism — The Scope Of The Problem
943 Is Drinking A Problem?
944 To Drink Or Not To Drink
945 So You Love An Alcoholic
946 How A.A. Can Help The Problem Drinker

ARTHRITIS – RHEUMATISM
126 Gout
127 Arthritis – Rheumatism
128 Rheumatoid Arthritis
129 Bursitis
131 Arthritis And Quackery

BIRTH CONTROL
1 Vasectomy
14 Family Planning
53 Tubal Ligation
54 Birth Control
55 The Pill
56 Intrauterine Devices
57 The Rhythm Method
58 Diaphragm, Foam And Condom

CANCER
6 Breast Cancer
176 Cancer Of The Prostate Gland
177 Cancer Patient Services & Rehabilitation Information
178 Rehabilitation Of The Breast Cancer Patient
179 Lung Cancer
180 Cancer Of The Colon And Rectum
181 Cancer — The Curable Disease
182 Cancer — Seven Warning Signals
184 Hodgkin's Disease
185 Cancer Of The Skin
186 Uterine Cancer
187 Drugs That Treat Cancer
188 Radiation Therapy For Cancer
189 Childhood Cancers
190 Thyroid Cancer
192 Leukemia
520 Cancer Of The Bone
521 Cancer Of The Bladder
522 Cancer Of The Brain
523 Cancer Of The Larynx
524 Cancer Of The Mouth
525 Cancer Of The Stomach

CARE OF THE PATIENT IN THE HOME
164 Your Family Health
165 Home Care For The Bedridden Patient
166 Medical Supplies For The Home
167 Exercise For The Bedridden Patient
168 How To Take Temperature, Pulse And Respiration

CHILDREN
3 Can Medicines In The Home Poisen Your Child?
10 Poisons In The Home
17 Lockjaw
18 Tonsilectomy
20 Rheumatic Fever
43 Stuttering And Other Speech Defects
Thumb Sucking
48 No No — What Does It Mean To The Toddler?
71 Aspirin For Children
73 Earache In Children
79 Pinworms
80 Ringworm
81 Tics, A Child's Outlet For Anxiety
83 Impetigo
85 Pesky Perkeye
200 Normal Feet In Children
220 Limping In Children
224 Mumps
226 Croup
227 Measles
229 Chickenpox
230 Cleft Lip And Palate
233 Speech Problems In Children
238 Large And Protruding Ears
239 Cystic Fibrosis
237 Whooping Cough
238 Meningitis
239 Necessary Inoculations For Your Children
280 Suppliers For The Newborn
281 Care Of The Newborn
282 Sudden Infant Death
283 Teething
381 Muscular Dystrophy In Children
400 Tommy Gets His Tonsils Out
401 Personal Hygiene For A Child
402 Where Did I Come From, Mama?

DENTAL HEALTH
301 Flossing Your Teeth
302 Effective Toothbrushing
303 Dental Plaque
304 Diet Tips For Dental Health
305 Malocclusion — Crooked Teeth
306 What About Wisdom Teeth?
307 Seven Warning Signs Of Gum Disease
308 Why And When Some Teeth Have To Be Replaced
309 Canker Sores And Fever Blisters
310 How Important Are Baby Teeth?
311 What Not To Do For A Toothache
312 Abscessed Teeth Can Be Saved
313 What You Don't Know About Dentures Can Hurt You
314 We Know What Causes Bad Breath. Do You?
315 Dental X-Rays — Really Necessary?
317 Dental Insurance
318 Reducing Dental Costs
319 How To Select A Dentist
321 Which Toothpaste?
323 Are You Afraid Of The Dentist?

DIABETES
11 You May Have Diabetes And Not Know It
22 First Care For Diabetics And Others With Poor Circulation
233 Diabetes In Children
609 Answers To Questions Often Asked About Diabetic Diets

DIGESTIVE SYSTEM
2 What Is A Normal Bowel?
4 Hemorrhoids
44 Ulcers
45 Indigestion
79 Appendicitis
196 Peptic Ulcers
198 Hiatal Hernia
199 Colitis And Bowel Disorders
219 Laxatives
630 Diarrhea
631 Gall Bladder Trouble
662 Diverticulosis – Diverticulitis

DRUG ABUSE
130 Drug Abuse Resources In San Bernardino County
134 LSD
136 Amphetamines And Barbiturates (Up And Down Drugs)
137 Marijuana
138 Narcotics
158 Drug Abuse Resources In Riverside County

EYE CARE AND HEARING
9 Glaucoma
76 Otosclerosis, One Cause Of Hearing Loss
85 Pesky Perkeye
231 Hearing Loss In Children
450 From Hearing Loss To Hearing Aid
451 Hearing Loss From Noise
470 Seeing Spots And Floaters
471 Children's Vision
472 Cataract
473 Facts And Fallacies About Contact Lenses
474 Presbyopia — Do You Need Reading Glasses?

FIRST AID
89 Treatment Using Cold
91 Severe Bleeding
93 Electrical Shock
94 Shock
96 Poisoning By Mouth
98 Head Injuries
99 Burns
101 Thermal Burns
102 Mouth To Mouth Resuscitation (Small Children And Babies)
103 Mouth To Mouth Resuscitation (Adults)
107 First Aid For A Person Suspected Of Having A Heart Attack
108 Fainting
109 Epileptic Convulsions
110 When You Find Someone Unconscious
111 Choking
118 Animal Bites
121 Bee Stings
123 First Aid For Chemical Burns

GENERAL
17 Lockjaw
24 Anemia
30 Understanding Headaches
36 Hiccups
37 Backaches
40 What Are Viruses?
46 Lumps And Bumps On Arms And Legs
47 Leg Cramps And Aching
66 Blood Transfusion / Blood Bank
91 The Meaning Of Fever
76 Sore Throat
77 Kidney Stones
84 Dizziness
125 Shingles
126 Epilepsy
151 Varicose Veins
153 Baldness And Falling Hair
194 What Happens When A Disc Slips?
198 Bee Sting – It Can Cause Death
201 Neck Pains
660 Hypoglycemia
665 Sickle Cell Anemia
825 Multiple Sclerosis
1140 Blood In The Urine
1141 Kidney And Urinary Tract Infections
1198 Bite Injuries To Your Dog Or Cat
1188 Your New Puppy

HEART
21 Cigarettes & Heart Disease
23 Diet And Heart Disease
25 Hypertension And Blood Pressure
26 Stroke And Apoplexy
27 Health And Heart Checkups
28 How To Decrease Risk Of Heart Attack
29 Atherosclerosis And High Blood Pressure
30 Angina Pectoris
83 Early Warning Of Heart Attack
86 Chest Pains
72 Heart Failure
1110 A Discusseon On High Blood Pressure

MEN
1 Vasectomy
175 Years Of The After Forty Man
• Male Sexual Response

MENTAL HEALTH
33 Tension
81 Tics, A Child's Outlet For Anxiety
144 Emotional Experiences Of The Dying
159 Hypnosis
• Masturbation
432 Upset Emotionally? Help Is Available
725 Brain Damage Recovery
726 Psychosomatic Illness — It's Not All In Your Head
727 Schizophrenia
729 When Should I See A Psychiatrist?
• Homosexuality

NUTRITION
23 Diet And Heart Disease
403 The Young Child's Eating And Meals — Pleasure Or Problem?
600 Cholesterol In Your Diet
601 Low Salt Diet
602 How Important Are Trace Minerals In Your Diet?
603 Breakfast — Why Is It Important?
604 A Guide To Good Eating
605 Food Stamps And Good Nutrition
606 Nutrition In Pregnancy
608 Snacks
609 Answers To Questions Often Asked About Diabetic Diets

PARENTS
50 Teen Years — Age Of Rebellion
51 When A New Baby Creates Jealousy
133 Advice For Parents Of Teenagers
228 Should I Keep My Child Home From School?
404 Brothers And Sisters Getting Along Together
405 The Single Parent Family
407 The Man In Your Young Child's Life
408 Discipline & Punishment — Where Do You Stand?

PHYSICAL FITNESS
41 Are You Ready For The Skiing Season?
122 Sleep Is Kind
1082 Sports Tips For Youngsters
1083 Little League Elbow
1101 Exercising — Warm Up Slowly
1102 Blood Pressure

PLASTIC SURGERY
1030 Cosmetic Surgery Of The Breasts
1031 Cuts And Lacerations Of The Skin
1032 Blepharoplasty – Correction Of Saggy, Baggy Eyelids
1033 Otoplasty
1034 What Is Plastic Surgery?
1035 Abdominoplasty
1040 Face Lifts

PREGNANCY
5 Early Prenatal Care
12 Am I Really Pregnant?
14 Family Planning
24 Abortion
32 Unwanted Pregnancy
62 The Premature Baby
96 What Causes Miscarriages?
97 Warning Signs In Pregnancy
68 Infertility
99 Artificial Insemination
606 Nutrition In Pregnancy

PUBLIC HEALTH
8 Venereal Disease
62 Lice – Pubic, Head & Body
64 Fleas: Dirty And Dangerous
Cockroaches
182 Hepatitis
999 Infectious Mononucleosis
1095 What To Do During A Smog Alert

PUBLIC INFORMATION
19 Nine Ways To Cut Your Medical Costs
182 Social Security And SSI
183 State Disability Insurance
184 Medi-Cal
185 Medicare
171 Prescription Medicine
430 Medical Insurance Information
631 Child Protective Services
433 Full-time Foster Care Of Children
1081 Health Hints For Campers

RESPIRATORY
7 What A Case Of Pneumonia Means
13 Pulmonary Emphysema
38 Influenza
90 Hay Fever
209 The Swine Flu
300 The Flu
676 Bronchial Asthma
677 Histoplasmosis
680 Dust Diseases
681 Chronic Cough
682 Shortness Of Breath

SAFETY
60 Power Lawn Mower — Dangerous Tool
147 The Lady Living Alone
148 Mugging & Purse Snatching
150 Seat Belts For Safety
151 The Dangerous Driver
406 Accidents, Safety And Young Children

SKIN DISORDERS
79 Dandruff
80 Ringworm
82 Why The Mystery About Psoriasis?
83 Impetigo
86 Are Old Age Freckles Dangerous?
172 Acne
518 Itching Skin

SMOKING
21 Cigarettes & Heart Disease
693 Weight Control While Quitting Smoking
694 Why A Woman Should Quit Smoking
695 Reducing The Risks Of Smoking
696 How Smoking Affects Your Health
697 Do You Want To Quit Smoking?
698 What Do You Get Out Of Smoking?
699 Gimmicks To Help You Quit Smoking
700 Effects Of Cigarette Smoke On Non-Smokers

VENEREAL DISEASE
8 Venereal Disease
15 Syphilis
16 Gonorrhea
970 Herpes

WOMEN
31 Vaginitis
39 Feminine Hygiene
42 I'm Just Tired, Doctor
74 Why A, D & C ?
173 Menopause
182 What Is A Pap Test?
528 Mammography
681 Breast Feeding Your Baby
682 Emotional Feelings After Childbirth
Caring For Yourself After A Baby
694 Menstruation
689 Hysterectomy
• Female Sexual Response

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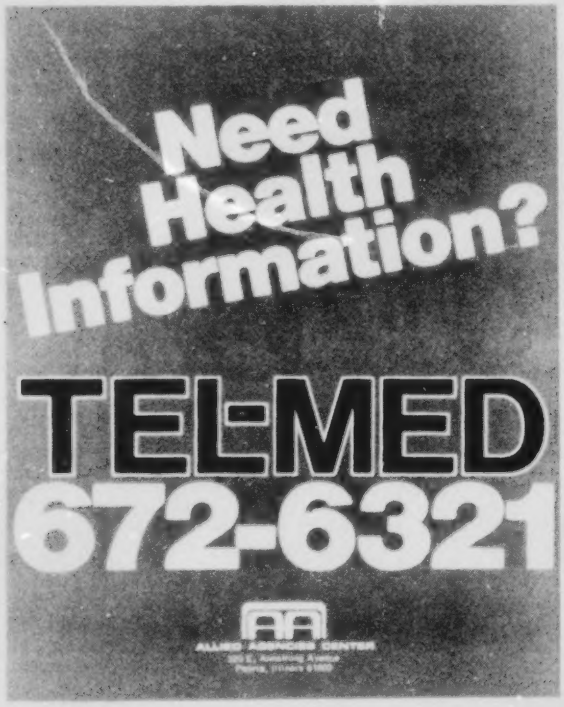
Promotion Necessary For Continued Response

Program activity is directly proportional to the volume of publicity expended, although library and population size as well as other factors also have an influence. Each program publishes and circulates a brochure listing available tapes as the main avenue of promotion. Other methods include media features and public service announcements, billboard advertisements, and community presentations.



One means of publicity used by the Tel-Med program in Peoria, IL was the above poster, strategically located in areas of public use.

One of the more effective methods arranged by a few programs has been the listing of the entire tape library in the local telephone directory. Although not always an attainable means for promotion, it is probably the most efficient. Most Tel-Med programs do list their telephone numbers in both the white and yellow pages of the directory.

Whatever the promotional activity, it is essential to the program, especially after initial reaction to opening publicity lessens, to continue periodic promotion. This keeps Tel-Med in the public image, and is essential to maintaining a steady influx of calls.

Evaluation-A Complicated Matter

It is difficult to accurately assess the influence of the many factors involved in the operation of a Tel-Med program. In preserving the anonymity of the caller, an evaluation must be creatively designed and cautiously executed. At present Tel-Med, Inc. has not been able to fund such an in-depth survey, although something of this nature is scheduled for the coming year.

One limited telephone survey conducted by the Tel-Med program in Pittsburgh, PA did reveal some important information about one of the most efficient Tel-Med programs. Nearly half the local population polled had heard of Tel-Med, and 15 percent had called to hear a selected tape. Also reported was a general satisfaction with the program, and a cost per call ratio of 23 cents--an impressive figure for disseminating health care information in these inflated times.

Volunteer Support

Even without an evaluation, many factors have simply proven to be influential in program success. Community involvement is one major asset. Many Tel-Med programs are supported financially and provided volunteer staff by local agencies. This serves two purposes in cutting personnel costs and promoting Tel-Med through existing circles. Tel-Med has been described by many of the volunteers who participate as switchboard operators as providing greater satisfaction then many other volunteer functions. In this manner they feel gratified in providing for the caller the link to the assistance sought.

Approximately 50 percent of Tel-Med programs employ volunteer operators. As mentioned earlier, switchboard operation is simple enough to be learned with minimal training. Working shifts generally last from two to four hours. Those programs who do use paid personnel can often assign other clerical functions for operators to perform when call volume slows.

The majority of Tel-Med programs implemented in the past two years have been sponsored by hospitals as a local health care education tool, in contrast to the first 100 Tel-Med programs which for the most part were sponsored by medical associations. Almost any agency can sponsor a Tel-Med program, provided a local medical review board of physicians is available to review the tapes to be used in that program.

Approximate location of the nearly 200 Tel-Med programs currently in operation.

Relative Pricing Schedule

The cost of a Tel-Med program will vary depending on the size of the equipment and tape library, local telephone service fees, and personnel and promotional expenses, with equipment by far the major expense. The tapes themselves fall into several pricing categories. At present, the most common of these are the master library tape ordered without revision in content at $20, and the original tape which requires complete renarration at $40. Other categories such as updates, duplicates, nightlines and break tapes are priced accordingly.

A monthly program support fee of $30 is assessed to all Tel-Med programs in support of the services provided by Tel-Med, Inc. These include the continued development and updating of the tape library, publication of a monthly newsletter and several other functions geared toward development and expansion.

Securing Financial Support

To meet the costs of providing Tel-Med, funding from the programs' main sponsors has often been supplemented by local agencies--service clubs, businesses, and others. Some programs have arranged for local health agencies to sponsor individual tapes concerning their given specialty. For example, the local chapter of the American Heart Association might sponsor tapes in the anti-smoking field. However, the bulk of financial sponsorship can be attributed to sponsoring hospitals, medical associations, insurance companies (e.g. Blue Cross/Blue Shield), universities, and governmental grants.

Toward The Future

With recent national concentration on preventive medicine and promotion of health care, Tel-Med, Inc. is looking to these agencies for the continual expansion of Tel-Med. Their interest in Tel-Med is obvious in list of sponsors who have implemented programs in the past two years.

The renewal of Tel-Hospital, a health care information system created for hospital patients, is one action taken by Tel-Med, Inc. to meet this growing trend. Other steps include recent goals imposed to expand the tape library size to 500 tapes over the coming three-year period, and a national conference on Tel-Med where program directors can meet to personally share ideas on better methods to employ the Tel-Med service.

In looking to the future, Tel-Med can expect continued expansion in areas of the country where the program is presently unavailable, and further development of those topics identified

for inclusion in the master library of tapes. As the Tel-Med dial access system reaches these objectives, it will be making a major contribution toward establishing the importance of the dissemination of information in achieving the overall goal of health care awareness.

DIAL ACCESS: CANCER EDUCATION BY TELEPHONE

Geraldine McGowan, R.N., Dr. P.H.
Health Educator
Dial Access Program Administrator
The University of Texas System Cancer Center
M.D. Anderson Hospital and Tumor Institute
Houston, Tx.

Introduction

From its beginning in 1970, the Dial Access System of the University of Texas System Cancer Center (UTSCC) has focused on the patient with cancer. It was developed as a toll-free telephone service for answering physicians' questions regarding the most current diagnostic procedures and therapeutic measures for their cancer patients. Throughout its nine-year history, the system has used the patient-oriented approach to disseminate the latest information on cancer and to serve as an immediate educational resource for physicians, nurses, dentists, medical students, and increasingly for other health personnel.

At its inauguration in Texas in 1970, the system was called a long-distance "jukebox" that played pre-recorded messages on cancer instead of music. All licensed Texas physicians had been alerted to the new service through the distribution of the first catalog, listing more than 100 topics. Each recording, played in response to telephone requests for information about cancers of specific organ sites, comprised approximately seven minutes of condensed explanations of new research and the latest diagnostic and therapeutic procedures.

In 1973 the capacity of the system was expanded to reach more than 60,000 health professionals in 17 southern states and to offer more than 200 tape recordings. The new area included Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. For almost five years from this date, the system, originally funded by the Regional Medical Program of Texas, was co-sponsored by the M.D. Anderson Hospital and Tumor Institute, the Southern Medical Association based in Birmingham, Alabama, and the Texas State Department of Health, and was supported in part by the Division of Cancer Control and Rehabilitation of the national Cancer Institute. Since then service has increased steadily to include all 50 states and to offer a library of 355 pre-recorded tapes.

Figure 1

Figure 1 displays the operator using the audio equipment for program operations.

A statistical history of cumulative calls is presented in Table 1.

Table 1

STATISTICAL HISTORY OF DIAL ACCESS SYSTEM
March 1, 1970 through December 31, 1978

DATE	NO. OF NARRATIONS	CUMULATIVE CALLS
Mar. - Dec. 1970	100	2,595
Jan. - Dec. 1971	100	7,060
Jan. - Dec. 1972	163	9,667
Jan. - Aug. 1973	200	9,851
Aug. - Nov. 1973	300	10,064
Nov. - Dec. 1973	300	10,436
Jan. - Dec. 1974	300	18,701
Jan. - Sep. 1975	300	27,471
Oct. - Dec. 1975	300	29,573
Jan. - Jun. 1976	350	34,756
Jul. - Dec. 1976	353	44,072
Jan. - Dec. 1977	355	59,818
Jan. - Dec. 1978	355	69,645

Audience

In 1970, during the first ten months of operation, 2,595 calls were received. Although this figure almost doubled during the second year, response to the system declined until 1974, when the number of calls climbed to 8,265. An eighteen-month evaluation conducted during the years 1974 and 1975 with 10,872 and 14,499 calls, respectively, showed that most of the callers were physicians with M.D. degrees. They comprised 97.6% of the responders to a questionnaire sent to persons identified as first-time users of the system. By 1978, however, use of the system by non-physician health professionals and students accounted for over 50% of the calls. The percentage of requests from nurses, for example, rose to nearly 15% of all calls. It is interesting to note that course assignments for nursing students frequently include use of this Dial Access System as an educational tool to supplement clinical and lecture assignments about cancer.

The distribution of usage by health professionals during 1978 is shown in Table 2.

Table 2

DIAL ACCESS SYSTEM REQUESTS
BY HEALTH PROFESSIONALS

January through December 1978

TITLE OF HEALTH PROFESSIONAL	TOTAL NUMBER OF CALLS
MD	4,900
RN	1,433
RN Student	801
MD Student	389
DO	165
Social Worker	120
LVN/LPN Student	115
DDS	83
LVN/LPN	81
Pharmacist	66
Pharmacy Student	66
Dental Student	58
DO Student	55
Physician Assistant	18
Registered Dental Hygienist	18
PhD	15
Dr. P.H.	13
DVM	12
Cytotechnologist	12
Radiotherapy Technician	11
Medical Technologist	8
Physical Therapist	7
Chiropractor	6
Certified Medical Assistant	6
Respiratory Therapist	5

(Table 2 continued)

Radiological Technician	5
Chiropractor Student	4
Certified Speech Pathologist	3
PhD Student	4
DMD	2
Nurse Anesthetist	2
Clinical Pathologist	2
Physician Assistant Student	2
Registered Dental Hygienist Student	2
Podiatrist	1
Occupational Therapist	1
DVM Student	1
Medical Technologist Student	1
Other Health-Related Professions	262
Miscellaneous Requests, e.g., consultations, information, etc.	859
Calls received from various professions during relocation (March 10 -March 21)	213
GRAND TOTAL	9,827

Promotion

The system has been promoted principally by articles published in regional journals and newspapers, by exhibitions at national meetings of medical societies and health-care organizations, and by distribution of catalogs.

Publications have appeared in M.D. Anderson's Newsletter, a publication mailed to approximately 33,000 physicians in Texas and the surrounding states, M.D. Anderson Messenger, mailed to employees and others upon request, Texas Times, forwarded to all personnel of The University of Texas System, as well as Texas Medicine, Southern Medical Journal, and Southern Medicine.

The crucial means of promotion, however, is the distribution of updated catalogs. Usage of the system has increased significantly, sometimes doubling for a period the number of calls, following the issuance of a new catalog. For example, it was following the distribution of the fourth edition of the catalog in the fall of 1973 that the dramatic 1974 climb in usage occurred. Also the year 1977, after the fifth edition of the catalog was distributed, was marked by the all-time high of almost 16,000 calls.

It is expected that approximately 300,000 new catalogs will be distributed through the Southern Medical Association to its members in the southern states and the District of Columbia, through state chapters of the American Cancer Society and cancer institutions to physicians and other health professionals in the United States, and directly from UTSCC to health professionals in Texas within the next three months.

Update of Catalog

The sixth edition of the Dial Access Catalog, an update of the 1976 catalog, will include new listings under screening and early detection of specific neoplastic diseases, environmental carcinogenesis, chemotherapy, and immunotherapy. Notable examples of new subjects in the catalog are "Screening Examination for Skin Cancer," "The Cancer Detection Examination," "Patient Interviewing for Identification of High-Risk Factors," "Technique of Professional Breast Examination," "Susceptibility to Chemical Carcinogens," "Diagnosis of Asbestosis," "Chemotherapy of Cancer of the Bladder," and "Immunotherapy of Bladder Cancer."

A new numbering system has been introduced. Tapes are now numbered A-1 through A-382. In addition, topics are cross-referenced. Faculty are identified by name and institutional affiliation. Finally, the 1979 catalog cover is distinguished by new art work.

The ten most frequently played tapes for 1978 are shown in Table 3.

Table 3

DIAL ACCESS SYSTEM

Ten Most Frequently Played Tapes for 1978

	TITLE
1.	Philosophy of Nursing Care for Cancer Patients
2.	Ovarian Cancer
3.	Chemotherapy of Breast Cancer
4.	Chemotherapy of Colorectal Cancer
5.	The Treatment of Multiple Myeloma
6.	Specific Aspects of Nursing Care for Patients Receiving Chemotherapy
7.	Nursing Instructions for Patients Receiving Chemotherapy
8a.	Oat Cell Carcinoma
8b.	Nursing Aspects for Patients on Hyperalimentation Regimen
9.	Ostomy - Skin Care
10.	Radiation Protection Considerations in Nursing Care of Patients - Radium, Radioisotopes

Tape Library

To meet the mandate of providing the most recent diagnostic and therapeutic information on specific neoplastic disease problems, an editorial effort was requested of the new and former authors by the Review Board. Both new and currently-listed manuscripts were reviewed by the authors before being submitted to the program's Editorial Review Board.

The following guidelines for the preparation of manuscripts are forwarded to authors:

Procedural Guidelines for Submission of Scripts and the Editorial Review for the Dial Access System

1. A potential new author should send a proposed title(s) of the cancer-related subject(s) and a copy of his/her curriculum vitae to the Dial Access Editorial Review Committee.
2. Submitted title(s) will be considered for relevance and compatibility.
3. A typed manuscript will be requested from potential authors. Each author will be asked to include three references related to the topic(s) and to indicate his/her university or hospital affiliation, as it should appear in the Dial Access listing of participants in the catalog.
4. Manuscripts are reviewed by the Dial Access Editorial Review Committee. The editors of this institution will review all manuscripts for grammatical structure and suitable format. The author is notified of the recommendations of the committee and editors.
5. After the manuscript is approved the actual recording will be made by a professional narrator.
6. Scripts will be entered into the tape library and reviewed annually.

During the past year, the System has expanded from 355 to 382 tapes. There are 186 authors constituting nationwide representation. Forty-eight of these are new authors. Sixty new titles have been submitted for inclusion in the 1979 library.

Tape Production

Initially, auditions were scheduled for potential narrators of the manuscripts. Television and radio announcers as well as members of the health professions responded to the audition announcements. Excerpts from several manuscripts were used as materials for audition recordings. Representatives of the Medical Communications Department from the University of Texas System Cancer Center assisted the Dial Access staff in the selection of the finalists.

Contractual agreements were developed with the speakers, specifying that the narrator will re-record all materials that have errors in narration. Each recording is edited by the author or a professional familiar with the specialty topic.

Mechanics of Operation and Staffing

A Gates and Harris tape-playing unit is the major audio equipment used in the Dial Access System service. The layout has been set in cabinets constructed by the Physical Plant personnel of the University of Texas System Cancer Center. Assistance from the telephone company and the Department of Medical Communications was obtained in setting up operations and in taping narrations.

Today, the system operates on eight interswitchable WATS (wide area telephone system) lines (one local, two Texas, and five nationwide) connected to playback tape cartridge players.

The hours of operation are Monday through Friday, 8 a.m. to 8 p.m., and Saturday, 9 a.m. to 1 p.m. (Central Time), with major holidays excepted. The toll-free numbers are:

Nationwide	1-800-231-6970
Texas	1-800-392-3917
Houston	790-1683

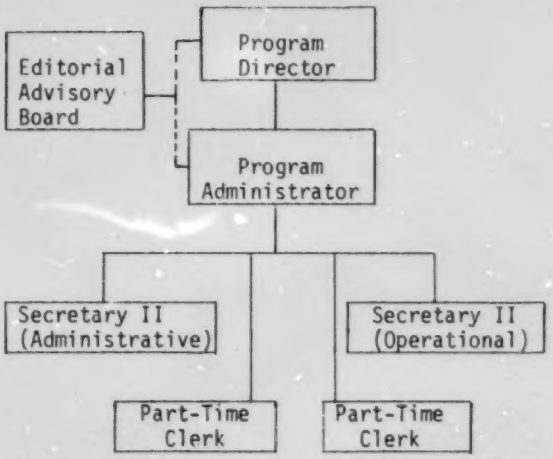
Health professionals can use the service by dialing the appropriate toll-free telephone number to request, by tape number, any of the topics listed in the catalog. The call is received by a secretary who asks for identification, including name, address, and profession. Daily log sheets are maintained for recording statistical information, including the identity and locale of each caller, the tapes requested, and the health profession represented by the user. From these records, an analysis is made monthly of the number of calls received, the locality (state) from which the request is made, the most frequently requested tapes by number and title, and the number of calls by professional titles.

The immediate office staff consists of two secretaries manning the system during the day for eight hours and two additional part-time clerks for the evening and Saturday hours. The organizational chart is shown in Figure 2.

Figure 2

DIAL ACCESS SYSTEM

Organizational Chart



Evaluation

The last evaluation of this program, conducted from October 15, 1976 to April 6, 1977, employed a 22-item questionnaire and was designed specifically for users in medical or dental practices. The survey focused on five major areas of information: (1) user demographics/background, (2) identification of the nature of the user's professional activities with cancer patients, (3) assessment of the tape recorded message, (4) use of information obtained from Dial Access, and (5) suggestions for improvement of the system. Over 79% of the 2,010 questionnaires mailed out were returned. The evaluation confirmed staff predictions regarding use of the service by physicians and dentists. Increase in utilization correlated with geographic expansion and promotion. Close to one-half of the respondents practiced in communities with populations over 100,000. The three highest-ranking specialties were general surgery, internal medicine, and general/family practice. Solo practices ranked highest at 38.2% of types of practice among the respondents; 22.3% of the respondents were in partnership; 22.7% in professional association. The vast majority of respondents, 65.7%, learned of the service through distribution of the catalog. Ninety-five percent of the respondents depended on medical journals as al-

ternate sources of information on cancer. Approximately 44% of the respondents reported that less than 5% of their patients had cancer. Nearly 75% of respondents reported that they performed a major role in the area of diagnosis of cancer. Approximately 50% were performing screening, and the same number were engaged in treating cancer patients. Less than one-fifth reported major involvement in rehabilitation of cancer patients. Eighty percent of the respondents reported the availability of consultative resources for cancer in their local communities and 72% reported using available oncology consultative resources fairly frequently or very frequently.

Users were asked to assess, on a scale of 1 to 5, eight characteristics of the system: (1) quality of tape sound, (2) quality of speech delivery, (3) pertinence of titles to text, (4) practicality of information, (5) effectiveness as compared to recent local hospital staff meetings, (6) usefulness as a review, (7) effectiveness as compared to two recent issues of a medical journal, and (8) new information provided. The highest rating related to actual physical delivery of the program; the lowest, a cumulative rating of 3.91, to the provision of new information. A very small percentage of survey respondents indicated a need for additional tapes and specified the topics. Suggestions included additional tapes on specific protocols, hematologic malignancies, chemotherapy, and head and neck cancer. Respondents reported using the system an average of 2.84 times. Ninety percent of the respondents reported that patients derived benefit as a result of the system's use. Slightly more than 80% of respondents indicated an interest in a program that would provide continuing education credit through use of a Dial Access System.

Patient-related problems requiring immediate action were cited by 37.9% of respondents as a reason for using this system. Almost 30% of respondents reported that they used the system for patient-related problems of a non-immediate nature.

Almost 98% of respondents reported no difficulty in reaching the Dial Access Office.

Over one-third of the respondents offered comments on the service. About 40% were favorable; less than 20%, critical. Over 30% suggested improvements regarding voice volume on tapes, pace of delivery, lack of specificity, provision of reprints, date of taping, updating of tapes, the addition of timing of tapes in catalog, wider authorship, and addition of tapes for cancer patients and families.

A more extensive evaluation questionnaire will be distributed to all categories of health professional within the coming year.

Funding Sources - Past and Present

Initially, in 1970, the Dial Access service was instituted by The University of Texas System Cancer Center M.D. Anderson Hospital and Tumor Institute in conjunction with the Texas Regional Medical Program (RMP). In 1973, a National Cancer Institute (NCI) funding contract was initiated, in collaboration with the Southern Medical Association (SMA). The NCI contract was awarded from June 28, 1973, through March 28, 1978, a time period that included a six-month extension by NCI. From March 1978 and continuing to this date, the system has been jointly supported by the University of Texas System Cancer Center, the Southern Medical Association, the Texas Division of the American Cancer Society, and other cancer centers and institutions.

Procurement of appropriate funding sources to defray operational expenses is necessary.

To supplement specific contributions, a policy has been established to enable interested parties to become active and associate partners of the system. Active partnership agreements are based on membership contributions in increments of $10,000, allowing an appointee of choice to serve on the Editorial Advisory Board. Each $10,000 membership authorizes one appointee. Associate partnerships may be established, based on the average number of calls received from individual states.

Projections

Some projected goals for the Dial Access System include:

- Proliferation of new cancer-related topics from authors nationwide.
- Expansion of tape library to include cancer information pertinent to additional health professionals, such as nutritionists, radiologic technicians, and physical therapists.
- Annual review of manuscripts.
- Marketing of service to areas currently not familiar with the system.
- Development of liaison relationships with health-related associations, institutions, and health care practitioners.

(Projections continued)

- Design of another user survey, aimed at users from all health professions.
- Refinement of data-collecting for recording statistical information on callers and tapes requested, utilizing computer terminal.
- Development of mechanism for providing continuing educational credits to users.
- Procurement of appropriate funding sources for operational expenses.

Summary

The Dial Access System provides health professionals with cancer patient treatment information via toll-free WATS lines. Since the service was launched in 1970, 71,458 calls were received through March 1979 from health professionals throughout the United States, who have made use of one or more of the system's tape recordings.

Immediate telephone access to the latest knowledge in cancer information has proved to be an effective modality in continuing education. The system has served as a model for other dial access programs on a variety of medical topics.

Cancer control is enhanced through cancer education. This audio means is particularly valuable to over-extended health practitioners and students in rural and semi-rural areas.

Individuals requesting further information may write to:

The University of Texas System Cancer Center
M.D. Anderson Hospital and Tumor Institute
Dial Access Office
1700 Prudential Building
1100 Holcombe Boulevard
Houston, Tx. 77030

Acknowledgments are extended to the secretaries for their efficient operation of the audiotape library, to the Publications Office (UTSCC) for editorial services, and to the evaluation staff of the Office of Extramural Programs (UTSCC) for data analysis of the last user survey.

CAN DIAL: EVALUATION OF A DIAL-ACCESS CANCER INFORMATION SERVICE

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The Can-Dial dial-access cancer information service was inaugurated by Roswell Park Memorial Institute in 1974 as an experimental program funded by the National Cancer Institute. The Can-Dial project had two aims: first, to provide the people of New York State easy, rapid access to information on cancer prevention, detection and treatment; and secondly, to evaluate the effectiveness of dial-access in communicating such information to the lay public, to determine the characteristics of Can-Dial users, and to determine the relative value of various means of promoting such a service.

The fundamental assumption underlying Can-Dial is that increased public knowledge about cancer contributes to efforts to control the disease by encouraging primary prevention (such as smoking cessation) or secondary prevention (earlier detection). An important aspect of our evaluation efforts was to determine the extent to which use of Can-Dial was followed by such behavior.

Methods

The Can-Dial system consists of a library of recorded messages and a console of four tape players, three for local calls and one attached to a toll-free telephone. Originally, tape players and cassettes designed by the Cousino Company were used. However, after two years, the reliability of the players and especially the durability of the tapes were found to be less than expected. At that time, we purchased a new, less expensive tape playing system designed especially for Can-Dial by Communications In Learning (CIL) of Buffalo. This equipment consists of four professional quality cassette tape players, the circuitry of each slightly altered to accommodate the telephone. An electronic signal at the end of each tape message automatically shuts off the tape player and breaks the telephone connection. The CIL hardware and software has proven to be reliable and relatively inexpensive.

The tape messages were written by Roswell Park's Public Education Department and reviewed for accuracy by the Institute's clinical staff. Tape recordings are made in the CIL studios and transferred from the master to custom cut one-eighth inch cassette tapes. Messages are reviewed annually by the clinical staff and new messages are added as the need is seen. The original library of 28 messages has gradually expanded to 53 (see Table 1). The service is available seven days a week, 8:00 a.m. to midnight.

Table 1

CAN-DIAL TAPE LIBRARY

1. What is Cancer?
2. Cancer's Warning Signals
3. Cancer of the Breast – How to Detect It
4. Lung Cancer
5. If You Want To Give Up Cigarettes
6. Cancer of the Larynx
7. Cancer of the Uterus
8. Cancer of the Skin
9. Cancer of the Colon and Rectum
10. Leukemia
11. Cancer of the Mouth
12. Service and Rehabilitation Information for Cancer Patients and Their Families
13. Chemotherapy: Drugs Against Cancer
14. Cancer of the Bladder
15. Cancer of the Prostate
16. Cancer of the Bone
17. Cancer of the Stomach
18. Cancer of the Brain
19. Hodgkin's Disease
20. Cigarette Smoking and the Pregnant Woman
21. Cigarette Smoking and Dental Problems
22. What is the Pap Test – How Can It Help You?
23. What is the Roswell Park Memorial Institute?
24. Radiation Therapy in Cancer Treatment
25. Words from a Hospital Chaplain
26. The Effects of Cigarette Smoking on the Non-Smoker
27. Cancer of the Liver

28. Cancer of the Pancreas
29. Questions and Answers About Smoking and Quitting
30. Cancer Facts for the Teenager and the Young Adult
31. Breast Cancer Facts
32. Questions and Answers About Smoking and Health
33. Cancer of the Thyroid Gland
34. Speech Therapy After Cancer Treatment
35. Cancer Facts for the Senior Citizen
36. The Economic Impact of Cancer on the Family
37. Lymphoma and Multiple Myeloma
38. Second Hand Smoke – Non-Smokers Rights
39. Air Pollution and Health
40. Thyroid Cancer Following Radiation Therapy
41. Childhood Cancers
42. Unproven Methods of Cancer Treatment
43. Professional Assistance in Quitting Smoking
44. The Ex-Smokers Guide to Staying Off Cigarettes
45. Smoking – The Beginning of a Habit
46. Cigarettes – The Economic Realities
47. How Can Schools and Parents Help Prevent Smoking
48. Important Information for School Teachers
49. Mammography – Is It For You?
50. Laetrile
51. Early Detection of Colon Cancer
52. Occupational Exposure to Asbestos
53. Malignant Melanoma

Promotion of Can-Dial has been through distribution of printed pamphlets and public service advertising on radio, television and in newspapers. A particularly good form of promotion has been the publication of a full page advertisement (as a free public service) in the White Directory, a classified advertising directory published independently of the telephone company and distributed free to all homes in the Buffalo calling area. In general, we have found print advertising superior to electronic media. On television and radio, advertisements citing a specific message topic seems to stimulate more calls than generic ads for the service as a whole.

Evaluation activities were overseen by a social epidemiologist who developed the evaluation instruments, supervised the collection of data and analyzed the information gathered. Two interviewer/clerks conducted telephone interviews of 1,228 Can-Dial callers and 2,034 non-caller controls and tabulated statistics. A keypuncher/clerk transferred data to computer cards and a part-time programmer assisted in analytical activities. Evaluation costs for the three year period totaled approximately $130,000. Costs of operation, including equipment, promotion and salaries of operators, totaled approximately $120,000.

For purposes of evaluation, only calls from the local calling area (Erie County, New York) were considered. These totaled 77,571. Two principal types of data were employed: information collected at the time of call and in-depth telephone interviews of a systematically selected sample of callers.

All callers were asked to volunteer their name, address, telephone number, sex, age, occupation and source of information about Can-Dial. This information, as well as the date and hour of call and the message selected, was entered by the operator onto a code sheet which was keypunched onto computer cards the next day and periodically placed on computer tape.

This information allowed us to monitor closely the characteristics of callers and the effects of special promotional campaigns. Using this information we could identify population groups or geographic areas which were not responding adequately and target promotion to them. We could identify peak and slack periods of use and adjust work schedules accordingly. This information has proven so valuable to program administration that we have continued to collect it, except for name and address, since the conclusion of our experimental phase.

The second method of evaluation entailed the use of telephone interviews of a systematically selected sample of Can-Dial callers and a randomly selected sample of non-caller controls from the Erie County area. Non-callers were selected from the telephone directory. Information collected from callers included data pertaining to changes in health behavior following contact with Can-Dial as well as motivations for using the system. Information collected from both callers and controls included data concerning education, marital history, occupation, contact with cancer patients, friends or relatives working in the health field, current health status, use of health services and orientation toward health, media use and knowledge of cancer's seven warning signals. Identical interview schedules were used for both caller and non-caller controls except that questions concerning action following the call to Can-Dial and motivation for calling were included in the caller interview schedule only.

In our evaluation, we were interested in ascertaining patterns of use of Can-Dial and the demographic characteristics of those who were using the system. Through interviews, we hoped to discover the influence the program exerted upon the behavior of callers, their reasons for calling and to explain differences in characteristics between callers and non-callers. We hypothesized that users of the program would be better educated, of higher socio-economic status, more preventively oriented and more concerned and aware of health matters than were non-users. We also hypothesized that experience with cancer or cancer-related health problems either in one's family, among friends or by the callers themselves, would increase the likelihood of calling Can-Dial. Finally, we were interested in understanding differential use of media by callers and non-caller controls and communication patterns demonstrated by these groups.

Several qualifications must be mentioned at this time. First, the Can-Dial program was viewed primarily as a public service. Consequently, individuals who did not wish to volunteer the personal information were still able to listen to the desired message. This, of course, affects the data that we were able to collect since 48% of callers declined to give their name and therefore those interviewed were, in a sense, self selected. However, we feel the calling population is so large that this effect, if any, is very minor.

Secondly, it was impractical to design a pre-test, post-test evaluation of callers. We could not question them on knowledge and behavior regarding cancer before they heard the message and then again afterwards. Doing so would have allowed us to more confidently separate the effect of the message from patterns of knowledge and behavior inherent in the population of potential callers.

Thirdly, both the information collected at the time of the call and that obtained through interviews is based upon self-reports. There is no validation of reported behavior such as smoking cessation or doctor visits.

Despite these limitations, we feel Can-Dial's evaluation has provided insight into the utilization and impact of a dial-access cancer information service.

Findings

Several characteristics of the population using Can-Dial became apparent early in its operation and have remained consistent through the years. Minor variations have occurred, usually in response to specific publicity campaigns or news events, but a clear pattern has been established.

During the three year experimental period, nearly half (47.4%) of the callers were under 20 years of age. It has become common practice for school teachers to assign Can-Dial messages as a report project in Health Education. Many children also call on their own, apparently out of curiosity about cancer and because they are interested in the dial-access concept itself. Because short-term behavior changes in this age group have little significance to cancer control, persons under 19 were excluded from our evaluation.

Among adults, Can-Dial use declined with increasing age. The call rate per 10,000 fell from 755 in the 20 to 29 age group to only 36 among those over 70 (see Table 2). This is distressing because cancer incidence increases with age. In part, this decline is undoubtedly due to more negative attitudes towards preventive health behavior, especially regarding cancer, among older people. But we must also recognize that older people may be inhibited by the technology of dial-access.

Women use Can-Dial nearly twice as often as men. In the three-year period, 64% of calls from adults were by females and 36% by males. Women are traditionally regarded as taking greater interest in preventive health than men. However, the influence of occupation and leisure time in utilizing dial-access should not be overlooked. Forty-five percent of adult callers gave their occupation as "housewife".

Table 2

CAN-DIAL RESPONSE BY AGE FROM APRIL 1974 THROUGH MARCH 31, 1977

	Response	
Age	% of Calls	Rate/10,000*
Less than 10	2.4	61.98
10 to 19	45.0	1,050.26
20 to 29	22.0	755.26
30 to 39	12.5	545.86
40 to 49	9.1	327.48
50 to 59	6.2	248.08
60 to 69	2.3	131.84
70 and over	.5	36.45
TOTAL	100.0	

*Based on population of Erie County.

We were able to estimate socioeconomic status (SES) of callers by determining the census tract of those who gave their address. Relatively little difference in response was found among socioeconomic groups. The lowest SES quartile actually exhibited the highest use of Can-Dial (255 per 10,000), while the second quartile had the lowest (209 per 10,000).

Place of residence affected the call rate. Residents of the City of Buffalo were more likely to use Can-Dial than were residents of its suburbs, who in turn were more likely to call than those living in rural areas. This occurred despite the fact that there is no difference in telephone charges throughout the area. We believe this variation reflects the fact that city residents are most likely to be exposed to advertising messages for Can-Dial.

It has been our experience that overall call volume declines sharply during the summer months, especially July and August. However, this decline is attributable entirely to a fall in response from those under 20. Calls from adults continue at essentially the same level throughout the summer. A general drop in call volume is observed during the Christmas season.

The most popular message in the library was "If You Want To Give Up Cigarettes", which was requested twice as often as the next message, "Cancer of the Breast — Breast Self-Examination" (see Table 3). Indeed, four of the leading fifteen messages deal with smoking, two specifically with smoking cessation. This is certainly heartening in view of the fact that approximately one-fifth of U.S. cancer mortality is attributable to smoking. Furthermore, the five leading cancer sites by incidence (skin, colon-rectum, lung, breast and uterus*) are represented among the ten most

*Including cancer and in-situ carcinoma of the cervix.

frequently requested messages. Each of these are sites where primary or secondary prevention can significantly reduce morbidity and mortality. This demonstrates public awareness of the most common cancer threats and an interest in doing something about them.

Table 3

MOST FREQUENTLY SELECTED CAN-DIAL TOPICS
APRIL 1974 THROUGH MARCH 1977

	Topic	Number of Times Requested
1.	If You Want To Give Up Cigarettes	9,772
2.	Cancer of the Breast	4,663
3.	Cancer's Warning Signals	3,160
4.	Effect of Cigarette Smoking on the Non-Smoker	3,022
5.	What is Cancer?	2,880
6.	Lung Cancer	2,383
7.	Cancer of the Colon & Rectum	2,345
8.	Cancer of the Uterus	2,258
9.	Cancer of the Skin	2,199
10.	Leukemia	1,927
11.	Cigarette Smoking and the Pregnant Woman	1,881
12.	Questions and Answers About Smoking and Quitting	1,489
13.	Hodgkin's Disease	1,834
14.	What is the Pap Test	1,823
15.	Cancer Facts for the Teenager and Young Adult	1,257

A systematically selected sample of adult callers were interviewed by telephone between one and four months following their call to Can-Dial. We inquired as to their reason for using the service. As can be seen from the accompanying table (Table 4), nearly one in four callers cited a desire to stop smoking. This, of course, corresponds with the popularity of the messages on smoking cessation.

"Curiosity" was cited by nearly as many people as their motivation for calling. Twelve percent of callers expressed a desire to learn more about cancer in general, while 11% cited interest in a specific type of cancer. These four categories account for more than two-thirds of calls.

Among the remaining callers, 10% referred to a current health problem as their reason for calling and 4.8% cited a belief that they had cancer. Suprisingly, only 1.6% of callers were cancer patients, a rate not much higher than the expected incidence in the adult population. However, nearly 12% of callers cited the diagnosis of cancer in a relative or friend as the reason for calling.

Table 4

FIRST REASON MENTIONED FOR CALLING

Reason	Response
Wishes to quit smoking	23.4%
Merely curious	22.9%
Wants to obtain more knowledge about cancer	12.2%
Was interested in a specific type of cancer	10.9%
Caller currently has a medical problem	10.0%
Someone from the caller's family has cancer	9.6%
Caller believes he/she has cancer	4.8%
There is illness in the caller's family	2.3%
A friend has cancer	2.3%
Caller is a cancer patient	1.6%
TOTAL	100.0%

As can be seen on Table 5, 20.4% of the respondents indicated that they modified their smoking behavior by cutting down or changing brands. Nearly 5% reported that they had completely quit smoking. Assuming that these were the individuals who had indicated a desire to quit smoking as their primary motivation for calling, these data suggest that about one-fifth of persons intending to quit smoking actually succeed after calling Can-Dial. This is a rate comparable to that achieved in smoking cessation clinics. While the benefits would not be as great as obtained by smoking cessation, the larger number of individuals who changed brands or smoked less probably achieved some reduction in exposure to cigarette tars.

Table 5

WHAT DID YOU DO AS A RESULT OF HEARING THE TAPE?

Nothing	39.8%
Quit Smoking	4.8%
Attempted to Quit or Cut Down Smoking or Changed Brands	20.4%
Appointment With Doctor	12.2%
Other Positive Impact	22.8%

Twelve percent of callers stated that they made an appointment to be seen by a physician as a result of hearing the message. Of course, all these visits may not actually have been a consequence of only the Can-Dial call. The caller may have been aware of a potential health problem and the call may have been part of a decision making process which culminated in the physician consultation. The Can-Dial message may have accelerated that process, or in some cases, impeded

it. We cannot determine this from our data. In any case, one in eight callers see their call as leading to a doctor's visit.

We have lumped under the category "Other Positive Impact" a variety of expressed benefits ranging from practicing breast self-examination to discussing cancer with others, to relief of anxiety. It should be remembered that a specific action is not always the desired outcome of a call to Can-Dial. Dial access may serve an important function simply by providing information to people with a need to know, such as cancer patients or their family members, who comprise one-eighth of adult callers.

Sixty-one percent of all callers said they discussed with someone else the message they had heard. Of these, more than 11% said the person they talked to subsequently consulted a physician.

We must recognize that dial access may not be used by everyone. We have already presented evidence that Can-Dial is underutilized by older people and by males. Accordingly, we have compared findings between callers and non-callers selected for interview from the telephone directory.

Upon adjusting for age and sex, no differences were found between callers and non-callers for such demographic characteristics as education, occupation, socioeconomic status, marital status or media use. More callers than non-callers reported experiencing health problems which they felt could be attributed to cancer. Further, more callers reported having a family member with cancer.

We then compared callers and non-callers who reported having symptoms which they perceived as cancer related. Here we found callers were more likely to be married, to have higher educational status, to know someone with cancer and were able to correctly cite more of cancer's seven warning signals than were non-callers. In other words, for persons concerned with their own health, the indices usually associated with preventive health orientation come into play.

It is clear that a large number of factors act as determinants in using Can-Dial. The most important of these are age and sex. Also important are a desire to quit smoking, cancer in the family, experience of cancer symptoms and exposure to advertising for the service.

Conclusions

A dial-access service fills a need within the community for authoritative, easily-accessible information about cancer. It appears to enhance the process of initiating positive health behavior, but it does not replace public health education and other forms of public information. For instance, awareness of the dangers of smoking and the benefits of quitting precedes the call to Can-Dial, which then (apparently) helps some of those who seek advice.

Can-Dial serves primarily those who are health-oriented – the young, the female and the better educated. It is less successful in reaching males, rural dwellers and the elderly, but this deficiency may be more a failure to raise general health awareness in this population than it is a shortcoming of the dial-access concept. These groups are generally regarded as less prevention-oriented and slower to adopt innovative health behavior. Our research has indicated that promotion targeted to these groups will increase response, but will also increase costs and produce diminishing returns.

Print media are superior to the electronic media in stimulating use of the service, although the latter should not be overlooked. Radio, especially, produces a high volume of calls relative to the effort involved. Advertising citing a specific message topic rather than the service in general will be more productive.

Dial access contributes to the adoption of positive health behavior in callers. At the minimum, it helps some smokers to quit and stimulates many callers to consult a physician. It further provides authoritative, easy to understand information on cancer and its treatment to callers with an immediate concern, that is, patients and their relatives. Though difficult to measure, we feel this is clearly a contribution to cancer control efforts.

Dial-access is inexpensive, relative to formal health education, but it is not as effective in changing behavior and reaches a self-selected audience (although we suspect callers are also the ones most likely to respond to education). On the other hand, it is readily available and seems to be utilized at a time when awareness and concern are high and when the likelihood of adopting appropriate behavior is greatest.

We have continued to operate Can-Dial as a public service since the end of the NCI contract. Costs have been considerably reduced by the cessation of most evaluation activities, the use of volunteer operators and a reduction in special promotion efforts. We currently receive calls at the rate of 32,000 per year. Copies of the Final Report of the three-year Can-Dial project are available by contacting the authors.

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DIAL-ACCESS: A RESOURCE FOR HEALTH EDUCATION
THE DEVELOPMENT OF PHYSICIAN AND CONSUMER DIAL-ACCESS LIBRARIES

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I. Physician Dial-Access

A. Introduction

Thomas Jefferson said that health is no more than learning, indicating that the great man fully expected medicine to become a science of self-help. If that is so, then patients, like physicians, require instruction. Healthy development is vitiated when the temporarily stronger half of the physician/patient partnership presumes to ongoing dominance. Keeping people dependent on the physician is not the way to promote health.

Health education is a lifelong process during which time information is received and reviewed in terms of the recipient's own life-style, value system and priorities at the time it is received. In general, if that piece of information is found relevant and appropriate, the individual will internalize it and appropriate behavior change will result. If, however, the information contains little perceived relevance to the individual there is a good possibility that the information will be rejected.

Life-styles, value systems and priorities change so that information concerning personal and family health which has no perceived purpose under certain sets of circumstances takes on critical importance under changed conditions. The "teachable moment" becomes available to those whose role is to educate for health. The problem, then, was to devise a system by which current, authoritative and understandable information can be made available to a wide spectrum of people whose "teachable moments" appear for a variety of reasons, at a variety of times and, in a variety of places. One possible solution seemed to be the adaptation of a system which had been developed for the continuing education of physicians--the Medical Dial Access Library.

B. Medical Dial Access Library

1. The Medical Dial Access Library was initiated in 1966 with aims of:
   a. providing authoritative "core" information on a variety of medical subjects for use in emergency situations and as a method of updating medical information,
   b. having the information available at any time of day or night,
   c. accessible wherever the physician may be, and
   d. at the lowest possible cost.

2. The rationale for this was that busy physicians are faced with the problems that:
   a. advances in diagnoses and therapy are constantly occurring,
   b. they are frequently required to make immediate decisions at times and places where the normal sources of references are unavailable, and
   c. certain emergencies are not encountered very frequently so that it may have been several years since a previous similar situation had presented and been dealt with.

C. Physician Dial Access Service

In 1968, after two years developmental work, a library of approximately 250 tapes of 3-6 minute duration was offered to the 4,500 physicians in Wisconsin as a toll-free telephone service. The system was such that delay between completion of the call and the start of the requested tape was no more than 20 seconds.[1]

D. Evaluation

Focused promotion and evaluation was possible with the comparatively limited(4,500 M.D.'s) target population. It was therefore possible to derive information relating to the use of the system which can be judiciously extrapolated in the development of Dial-access systems for other populations. Thus, based on the limited target population and experiment, we learned that:

1. A dial access information retrieval (DAIR) system is exquisitely sensitive to promotion. The volume of calls can

almost be controlled by the promotional efforts.

2. With moderate but sustained promotion to a targeted population, a DAIR system can expect 3-4 calls per 1000 people per day.
3. When the system serves as an educational resource related to the work of the target population, the volume of calls is highest on Monday-Thursday with fewer calls Friday-Sunday.
4. The daily volume of calls is highest between 8:00 PM and midnight, negligible between midnight and 8:00 AM. Approximately 5% of calls are received each hour between 9:00 AM and 7:00 PM.
5. There is a slow, but relatively steady increase in the "repeat user" population, until a plateau is reached. For physicians this plateau appeared to be approximately 10% of the population. The assumption is that the plateau for any given population is dependent upon multiple factors, e.g., other resources available, time, comfort with the system, etc.
6. The study revealed many interesting facets related to the practice of medicine; some of which may or may not be transferable to the consumer who is seeking health information.
   a. The system enjoyed higher acceptance by physicians in small communities.
   b. Approximately 20% of calls related to specific patient problems resulted in a reported change in management by the physician caller and another 12% reported they had changed some aspect of their practice as a result of the call.
7. There was a sharp decline in usage of the system when physicians were required to subscribe ($25 per year) for the use of the service.

E. Conclusion

This information leads us to the strong conviction that support on a continuing basis from sources other than the users is a prerequisite for a consumer targeted dial-access information retrieval system related to health. This fact contributed in large part to the decision that the system was more appropriate to populations other than physicians and the Medical Dial Access Library was phased out in 1976.

II. Consumer Dial Access

A. Background

The HEALTH-LINE library has been developed in response to a perceived need for a source of authoritative health information which could be readily accessed and understood by the lay public.

Previous reports about HEALTH-LINE have documented the need of the hospital patient for health information at the time he or she has the need to know coupled with a mental attitude of "health awareness".[2,3]

B. HEALTH-LINE Library

The HEALTH-LINE audiotape library currently consists of 475 short, lay-oriented messages on assorted health related topics of interest to the hospitalized patient, the outpatient, and persons in the community. The library is divided into sections by user classification ("Of Interest to Women") or message subject ("About Your Eyes"). The library is constantly growing as new topics are added on a continuing basis. Most messages are approximately four and one-half minutes in length with some shorter or longer depending upon subject matter need.

At this time there are eighteen messages specifically for children and thirty messages in the Spanish language. There may be a number of differing editions of any one message.

The HEALTH-LINE library is a resource which is currently being utilized in two distinct ways:

1. HEALTH-LINE -- caller selects messages desired.
2. HEALTH-LINE HIGHLIGHTS -- caller hears a preselected message.

In 1975 and 1976 HEALTH-LINE received endorsement from:

1. The State Medical Society of Wisconsin which recommended HEALTH-LINE to the county medical societies.
2. The Wisconsin Hospital Association which recommended that member hospitals consider implementing HEALTH-LINE in their hospitals.
3. The Wisconsin Hospital Association Auxiliaries which adopted HEALTH-LINE as a state health education project.

C. HEALTH-LINE Service in Wisconsin

In Wisconsin, HEALTH-LINE messages are made available by telephone to approximately two and one half million persons in HEALTH-LINE service areas or clients of institutions subscribing to HEALTH-LINE service. Each service offers its callers a distinct selection of HEALTH-LINE messages from which to choose. All HEALTH-LINE libraries do not contain every message available. The Wisconsin HEALTH-LINE

libraries and answering services located in the following cities serve their telephone toll free areas:

Rhinelander	Wisconsin Rapids
Eau Claire	River Falls
Wausau	Milwaukee

A library connected to an answering service located in Madison serves:

Sheboygan County	LaCrosse County
Rock County	Fond du Lac County
Kenosha-Racine	Madison Hospitals
Watertown	(Hospitals sponsor service
UW-Madison Campus	to retirement apartments, clinics, the Spanish community, etc.)

D. HEALTH-LINE HIGHLIGHT Service in Wisconsin

HEALTH-LINE HIGHLIGHTS Service in Wisconsin provides a community with telephone access to a different high interest HEALTH-LINE message each week. Seven hundred and eighty-six thousand persons living in the following areas and calling from within the toll free area can access HEALTH-LINE HIGHLIGHTS free of charge:

Fox Valley area	Kenosha-Racine area
Dane County	Marathon County

The messages to be highlighted are selected quarterly by a citizens selection board. Individuals exhibiting special interest in the service are frequently asked to sit with the board as guests. There is an intent to select board members who will be representative of both sexes, a wide range of ages, and varying occupational and educational backgrounds.

The Dane County area is served by five automatic answering units in hunt sequence. The Fox Valley area is served by two automatic answering units. Kenosha-Racine and Wausau services are operator answered on the regular HEALTH-LINE service lines.

E. HEALTH-LINE and HEALTH-LINE HIGHLIGHT Service Utilization

1. In Wisconsin. From initiation of service in Wisconsin in 1971 until December 31, 1978, close to one million calls have been received. As the number of services has increased, so have the number of calls. More than one-fourth of the calls were received in 1978. HEALTH-LINE HIGHLIGHTS accounted for 54% of the yearly total. Calls logged by the various services are being reported for publication elsewhere.

2. Outside of Wisconsin. HEALTH-LINE audiocassettes are purchased for use outside of Wisconsin (Appendix 1). A catalogue with selections and price list (Appendix 2) is available upon request. Purchasers sign a simple memorandum of agreement. There are no legal contracts to be signed and no limitations other than those noted in the memorandum of agreement. It is intended to keep negotiations as uncomplicated as possible (Appendix 3). HEALTH-LINE provides purchasers with logos, emblems, copies of publicity materials, news releases, help and advice whenever possible.

Within the last year approximately 1,000 HEALTH-LINE cassettes were purchased for use outside of Wisconsin.

F. Establishment of Wisconsin Services

To date, there have been two principal means by which an area in Wisconsin acquires access to the HEALTH-LINE messages:

1. Availability of Extension funding allows us to offer telephone access service to a given area. Funding may be total or partial and the degree of autonomy of the service follows the source of funds. Thus, Sheboygan and Fond du Lac counties receive almost total Extension funding and provide only some local publicity. UW-Extension maintains a fair degree of control in these services.
2. Institutions wishing to provide HEALTH-LINE to a community have been able to support a full service with local resources either by:
   a) purchasing cassettes and maintaining a playback service, or
   b) providing long distance access to the Madison based library and playback service on a fee per call subscriber basis.

   The service in Wisconsin Rapids and Watertown, sponsored by the hospital auxiliaries, are examples of this method of access. Univeristy of Wisconsin-Extension has comparatively little control over these services.

Currently, no new local libraries, entailing purchasing of playback units and cassettes, are being established in anticipation of a statewide communication system which is under development.

Communities or groups can sponsor additional client group access to their services. One of the Madison hospitals is currently sponsoring TELEFONO SALUD (HEALTH-LINE messages in Spanish), to the Spanish speaking community of Dane County.

All services are encouraged to involve local agencies, institutions, or groups in the

ongoing administration and support of the service. This type of community involvement is particularly beneficial in terms of wide support and utilization of the service.

G. Benefits of a Telephone Delivery System

Telephone access to short, taped health-related messages has a number of advantages which support this as a basic medium upon which to build a comprehensive hospital patient or community health education program.[4]

1. The caller can receive the information needed at the time needed from any telephone to which the caller has access.
2. Messages can be made available to a large number of people, relatively inexpensively.
3. There is anonymity and privacy for the caller.
4. Audiotapes tell the story completely and in proper sequence.
5. There is an advantage to poor readers.
6. Some people learn best by listening.
7. In the hospital setting, patients may be receiving medications which cause some visual difficulty.
8. The friendly tone of the voice on the telephone creates an intimacy which can be reassuring and helpful.
9. Some people find listening more pleasurable than reading.

H. Library Development

1. Selection of New Topics. In the initial phases of development of the HEALTH-LINE library, we thought of message topics as falling, broadly, into either of two large categories: a) of primary interest to the hospitalized patient, and b) of primary interest to the well person in the community or the non-hospitalized person with a chronic disease such as diabetes. For the hospitalized patient we tried to prepare a spectrum of topics covering information about the hospital, diagnostic procedures, x-ray, surgery, and financial matters. For the person in the community, we tried to prepare messages in the following categories: emergency care and safety, concerns of parents, cancer, high blood pressure, lifestyle (exercise, drinking, diet, etc.), concerns of women, messages for children, common health concerns, general health information.

As the library grew, topics were developed in response to requests by physicians, callers, our own analyses of library deficits, and agencies and organizations desiring inclusion of information about their health interests. Particular attention has been paid to inclusion of topics related to the major morbidity and mortality causes in the United States.[5]

2. Message Development.

a. The criteria for message inclusion in the library are:

1) Message must be of probable interest to a relatively large number of people.
2) Message must present helpful information rather than being promotional for special interest groups, e.g., topics prepared about the Reach for Recovery program, Parents Anonymous, Encore, The Lost Chord, etc.
3) Information must be reviewed by and approved by physicians or professionals selected by HEALTH-LINE as having expertise in the subject areas. The number of reviewers is largely dependent upon subject matter. ("Diet and cancer" may be reviewed by three or more physicians, dieticians, biochemists, etc. "Food stamps" will be written and reviewed by the county social service person assigned to write releases about such programs and would receive no medical review.)
4) Message must reflect the best thinking of the University of Wisconsin Center for Health Sciences and/or State medical community. Great care is taken in presenting or not presenting controversial procedures or topics bordering on the occult. In general, messages are conservative.
5) Message must be useful for listeners throughout the nation.

b. Administratively, several guidelines are followed:

1) Message must comply with the basic HEALTH-LINE format with regard to length, language, construction, tone, "listenability", propriety for anticipated listener, guidance, sources of further information and others. Few messages are the contribution of a single individual. Messages are edited by HEALTH-LINE as necessary.
2) Message does not carry name of writer or contributor.
3) Message can have several editions enabling referrals to local situations and resources.

c. The basic development of an individual message proceeds as follows:

1) Topic is selected or requested.
2) Tentative scope is outlined and tentative title assigned.
3) Selection of subject matter expert, through consultation with department chairmen, other contributors or reviewers, recognized authorities, always in answer to the question, "Who can best present this topic to the public in an accurate and helpful manner?" In many cases it is necessary to go outside of the University community for expertise (i.e., "Will Your Child Be Poisoned Today", "Tips On How To Quit Smoking", "Safe Snowmobiling").
4) Interview and commitment from subject matter expert.
5) Receipt of first draft from writer or writers.
6) Initial editing to comply with HEALTH-LINE format:
   a) Two to 2-1/2 pages double spaced typing.
   b) HEALTH-LINE leader: "This is a HEALTH-LINE message from the University of Wisconsin-Extension and the Center for Health Sciences."
   c) Message review to ascertain inclusion of:
      1) Order of presentation logical and helpful.
      2) Give guidance for behavior in general or in specific situations.
      3) Tell listener where to obtain further information.
      4) Language suitable for target listener (See appendix).
      5) English composition.
7) Message type assignment
   Type A - Message useful anywhere in United States
   (Example: "Having an Electrocardiogram?")

   Type B - Message should have ending individualized for location of listener.
   (Example: "Thinking of Suicide?")

   Type C - Message needs internal individualization to be applicable to each different user group.
   (Example: "Welcome to _____ Hospital")
8) Within the profession peer review if not obtained by person who prepared initial draft.
9) Across profession review if deemed necessary. (Example: "Radiation Therapy" would be reviewed by a physician with expertise in radiation therapy.)
10) Final editing by HEALTH-LINE.
11) Development of separate editions (Example: Export edition, Wisconsin edition,etc.)
12) Assignment of narrator appropriate to the subject matter (male, female, youthful, mature, Spanish speaking, etc.)
13) Message is narrated onto tape in a studio with operator in attendance to assure quality control. Message master is edited to produce a tape master and a cassette master. Assorted leaders, trailers, and editions are filed separately.
14) Filing of information relative to new message production:

    Card file entry
    Computer entry (See computer section)
    Master script filing
    Script copy folder filing
    Billing notations for Type C messages, sponsored messages, or custom produced messages.

I. Playback Equipment

The playback equipment currently in use in Wisconsin playback centers is a modification of a Sanyo automobile unit and is designated by the supplier as TAMS #1 and TAMS #2.

HEALTH-LINE has found the units being used to be satisfactory. When repair is necessary the units can be easily slipped out of their housing and returned after repair. A spare unit can be slipped into the system in seconds.

J. Cyclical Review and Message Update

At least once every three years, often more frequently, each script is mailed, with explanatory letter and report form (Appendix 4) to a subject area professional for review and update. The cyclical reviewer may or may not be one of the persons who has contributed to the original script. When script goes out to

review it is annotated on the folder flowsheet.

A considerable amount of follow-up is necessary to obtain review returns on all topics.

Review of Type C topics and custom produced topics is the responsibility of the client.

When a message is revised the new message replaces the old on the master reels and cassettes are sent to the Madison answering service only. The outside of Madison libraries are updated twice a year if financially possible. Message revision dates appear in the catalogue and it is the responsibility of out-of-state clients to order the updates of messages in their libraries. Clients receive computer print-outs of messages they have which have been revised since purchase date.

K. HEALTH-LINE Custom Services

A small number of HEALTH-LINE messages are designated as "Type C". These are basic scripts from which a client can compose that version of the message which is applicable to the client's individual situation. Sample titles would include: "Welcome to St. Mary's Hospital Chapel".

HEALTH-LINE will custom produce, for clients only, other health related messages to be used on client's playback system which are not HEALTH-LINE messages due to their origin, content, limited interest, or local application.

HEALTH-LINE will also provide editing service, complete writing service, adding trailers and leaders and other custom functions. Price list is in catalogue and available upon request.

L. Personnel

HEALTH-LINE has been most fortunate in having access to a multitude of University of Wisconsin-Extension support services such as: duplicating, printing, radio studio, complete tape and cassette production service, publicity, secretarial service, telephone answering service, bookkeeping and budget, photography, poster and sign shop, and computer assistance.

Personnel assigned exclusively to the HEALTH-LINE program consist of a program coordinator (60% time) who directs the service, graduate student accountant (5 hours per week) who logs calls and keeps records, and a student (5 hours per week) who does mailings of materials to clients, mailings to answer inquiries, filing, and other general clerical work. A small and variable amount of time is available from department personnel.

M. Computer Functions

All HEALTH-LINE message information and user information is recorded on special forms from which card key punching is carried out. Subsequently the information is stored in the computer center catalogue. Programs have been written which will yield the following print-outs:

1. HEALTH-LINE catalogue -- number and title by section - listing type, revision date, referenced messages, age of target listener,
2. Brochures for clients and/or lists of messages clients have selected for access or have purchased,
3. All topics in the HEALTH-LINE library which any given client does not have on his list or has not purchased,
4. All clients which list or have purchased any given message or messages,
5. For any client's library, a list of all cassettes which have been revised since accession with date of accession and date of subsequent revision,
6. Cassette order form -- Inside of Wisconsin. Numerical order, cassette label, cassette composition (EXPORT EDITION if needed),
7. Cassette order form -- Outside of Wisconsin. Same as above with exception of composition (notes where EXPORT EDITION is to be used),
8. Listing of all stored data.

At the present time, the computer service is essential to operation of the HEALTH-LINE program.

No message scripts or flow chart data are stored in the computer system. There is also a simple mailing list from which we receive a printout on adhesive backed address labels.

N. Most Frequently Requested Messages

1. HEALTH-LINE services. We do not keep a record of tapes requested for those services which are fed from the main library in Madison. Services outside of Madison may or may not keep such records. We do not request that they be reported to our office since, until all services could report, the results would not reflect total state usage. We will report, here, two sample listings of messages most frequently requested.

Most frequently requested HEALTH-LINE messages in one hospital:

a) Your Hysterectomy
Before and After Surgery
Having a D & C?
Having a Myelogram?
How to Stop Smoking
X-ray of Your Bladder & Kidneys

b) Most frequent requests from hospital personnel, outpatients, and families of patients and personnel of one hospital:

Your Hysterectomy
Marijuana
Before & After Surgery
Tips to Help You Quit Smoking
Having a Myelogram?
The Pill in Perspective
Sam Has Chickenpox
How to Stop Smoking

c) Most frequent requests from one community service:

Chris Curious and Home Safety
Chris Curious Gets Poison Ivy
The Friendly Wild Animal
The Russian Flu
Marijuana - Fable & Fact
The Magic Formula for Weight Loss
Who Needs Acne?
Lois Alert Goes Swimming
The Year Santa Almost Quit
You've Got Chickenpox?
A Friend is on a Bad Trip
You and Your Pet

2. HEALTH-LINE HIGHLIGHT Services. Individual message request counts on the HEALTH-LINE HIGHLIGHTS services are available since the count is the total logged weekly with the message change:

Most frequently requested HEALTH-LINE HIGHLIGHTS messages in 1978:	Calls Received
The Russian Flu (2 weeks)	12,042
Want to Get Rid of Holiday Hips?	4,636
The Flu and You	4,299
Wondering About Hemorrhoids?	4,062
Something in your Eye?	3,859
Tubal Fulguration	3,594
Lois Alert Goes Swimming	3,546
Calluses and Corns	3,531
What You Should Know About Arthritis	3,492
Living with Hay Fever	3,468
You and Your Pet	3,333
Recognizing the Hyperactive Child	3,211

O. Publicity and Promotion

Nine years of experience have shown that HEALTH-LINE usage is dependent upon and in direct response to promotion and publicity.

Response to publicity is immediate and may have minimal carry-over depending upon the situation.

In the hospital setting, promotion and publicity must be ongoing due to continual admissions and discharges. Recommendation by physician or nurse may be the most effective means of promotion.

In the community, spots by radio and T.V., and newspaper promotion bring immediate response. Distribution of lists of topics available produce more long lasting utilization. We believe that the larger the newspaper space, the greater the number of calls which result.

Our studies of types of publicity would seem to show that no medium is the most effective in all situations. The key to usage may well be the ability of the user to recall or retrieve the phone number from promotion by radio, T.V. and posters.

It is essential that, for any HEALTH-LINE service to achieve maximum utilization, there must be ongoing promotion and there must be some one person who is responsible for the day to day operation of the service. Experience indicates that a service will not run itself. The target listeners must:

1. Know the service exists.
2. Know they can use it, free of charge.
3. Know or have available the phone number to call.
4. Have a list of topics available unless they are calling a HEALTH-LINE HIGHLIGHT.
5. Receive good service when they do call.

As yet, we have never experienced a service which did not show an increase in usage with increased promotion. One could almost say, the more total funds available for promotion, the more a system will be utilized. ("Space" donated by newspapers, banks, etc., represents "funds" since "space" is money, no matter who pays.)

We suggest that funds for promotion be an integral part of any budget for a HEALTH-LINE service. We suggest, also, that a study of target population habits be undertaken before deciding on a promotion campaign.

P. Evaluation

Two evaluation studies have been attempted since the initiation of HEALTH-LINE in 1970. Both studies have involved response of the user or potential user to the HEALTH-LINE message heard, to the service, and to publicity and promotion.

1. Hospital Study. In early 1971, when HEALTH-LINE service began at the first hospital, 114 interviews were obtained from hospital patients who had telephoned to hear a HEALTH-LINE message. At that time, there were only 33 messages available. A complete report of this evaluation study has been published elsewhere so we will present only a summary of results:

Of 114 patients interviewed:

a. Sixty-five placed calls to learn about an ordered medical procedure.
b. One hundred and thirteen found the material understandable on first hearing.
c. One hundred and eleven found the message helpful.
d. Thirty were advised of the service by the nurse.
e. Eighty-four learned of the service through the brochure.
f. All were enthusiastic about the service.

Responses of nurses and nursing supervisors were very favorable, eliciting such responses as, "relieves fear of the unknown".

Hospital administrator response was enthusiastic.

Response by physicians and medical students was limited due to poor response rate to the survey instrument. Follow-up personal interview revealed that the service was well accepted and that in several hospital units physicians routinely advised patients to listen to selected messages.

2. Community Study. A study conducted in 1977 by a group of senior University journalism students was designed to answer the following questions related to HEALTH-LINE HIGHLIGHTS:

a. Which publicity medium produces the most calls?
b. What are the characteristics of the people who call.
c. Where do those who call learn about the service?
d. What was user response to the message itself?

The study was conducted over a two-week period in the following areas: LaCrosse, Rhinelander, Fox Valley, Dane County, Kenosha-Racine, Wausau. The study included an "impact survey" and a "reach survey".

a. "Impact Survey". During each of two weeks, a specific message was publicized in two areas not already having HEALTH-LINE HIGHLIGHTS. All persons requesting that message were asked if they would participate in the survey. Those who consented were called back and asked a series of questions designed to yield appropriate data. Different promotional techniques were used each of the two weeks.

Impact Study Publicity Schedule

	Week 1 #1138 Having Headaches?	Week 2 #1028 Taking Any Medicine?
LaCrosse	Television Flyers-Posters	Radio Newspaper-Shopper
Rhinelander	Radio Newspaper-Shopper	Television Flyers-Posters

Although the study was designed to yield information of interest primarily to students of journalism, selected data is meaningful to providers of dial access services, Sixty-four telephone interviews revealed:

1) The media which seemed to produce the most calls were television and radio.
2) Listener characteristics which may give guidance to the writer of consumer health messages:
   a) Over 40% of those interviewed were between ages 16-34 (young adult). This was the greatest response rate of callers prepared to be interviewed for any age group.
   b) Less than 8% of those prepared to be interviewed were age 65 and older. This was the smallest response rate for any age group.
   c) About 40% of those interviewed had completed 9-12 years of education.
   d) About 85% of those interviewed were female.
3) Television appears to be the most influential publicity medium in the small urban area (approximately 70,000 population) and radio the most influential in the rural city (approximately 14,000 population).
4) A majority of the listeners said that they placed the call because they wanted information rather than out of curiosity, and that the message was easily understood. Twenty-eight per cent of these persons said they actually used the information in the message.

b. "Reach Survey". Using names selected at random in the four areas receiving HEALTH-LINE HIGHLIGHT service, 262 persons were interviewed by telephone. Of these, about one-third had heard of HEALTH-LINE HIGHLIGHTS. Respondents were asked a series of questions designed to provide answers to the stated study questions.

Of particular interest to the provider of a dial access service are the following responses:

1) The newspaper was identified as that medium through which the most people were ultimately reached.
2) About one-third of the callers first learned of the HIGHLIGHTS from a poster.
3. Almost half of the respondents called because they were interested in the topic and 70% found the information helpful.
4) Listener characteristics of note were:
   a) Approximately three-fourths had received a physical examination in the last year.
   b) Approximately one-third had seen a physician in the last three months.
   c) Slightly less than half had 9-12 years of education.
   d) About 60% were female.

c. Discussion. This study was conducted as a model by a journalism class interested primarily in the effectiveness of publicity techniques. Due to the necessity of completion within one semester, the total number of persons interviewed was small, thus producing some categories in which there were such small numbers of respondents so as to vitiate many conclusions. The value of the study lies mainly in its potential as a starting point for design of a future more comprehensive evaluation study.

Q. Cost

The Department of Continuing Medical Education has been responsible for the following costs:

1. Development, continuing update, and maintenance of the HEALTH-LINE library.
2. Supply of HEALTH-LINE cassettes to the main Madison playback center and the Milwaukee center.
3. Providing all Wisconsin playback centers with current revisions of those tapes in their libraries.
4. All costs attributable to the income producing services.
5. Funding for program coordinator (60% time), publicity specialist (50% time), student help and secretary.
6. Computer services.

The annual budget for this has been steadily rising from an initial approximately $5,000 to a current level of just over $45,000. Income is estimated at $19,000 for this fiscal year.

Cost of the following are covered by or shared by various branches of University of Wisconsin-Extension including County Extension, the Department of Continuing Medical Education, Instructional Communications Systems, and by local agencies and institutions:

Telephone lines
Brochure printing and distribution
Publicity in the media
Purchase of cassettes for local libraries
Logging of calls received
Playback service operators
Local HEALTH-LINE supervisors

The budgeting of the various services in Wisconsin is complex and depends upon local needs and resources. A discussion of budget considerations will be published elsewhere. Since most of the Wisconsin dial access services also provide listeners with messages on a variety of subjects other than health, it would be impossible to break out those costs attributable to the health messages alone. One Wisconsin hospital subscriber, on a charge per call received plan, budgets $1,000 per year for its HEALTH-LINE service. This probably represents a minimum for a viable service. Based on our knowledge of the various services providing HEALTH-LINE messages in their communities, we believe that it is possible to initiate a small community service for $5,000 the first year and budget $2,500 in the following years, provided costs of space, operator, and supervisor are donated. Service to a large area may well be budgeted at $80,000 the first year and $50,000 for the following years.

R. Additional Accrued Benefits

It should be realized that, beyond the primary benefit to be accrued from a consumer health education resource, there are certain benefits to the provider of the resource. Any organization which sponsors a consumer health education resource is going to realize a certain amount of public visibility. The public relations department of any sponsoring institution or organization will immediately recognize the value of a service which will announce to the community that the institution cares about and is concerned about the welfare of the area it serves.

HEALTH-LINE is sponsored in some areas by hospitals, by hospital auxiliaries, and by colleges or universities. These institutions carry their names on brochures and flyers, and in many cases, the leader or trailer of the

HEALTH-LINE cassettes carries the name of the sponsor. This can, in actuality, provide excellent publicity and visibility for the sponsor. In some areas, publicity via the newspapers is sponsored by local agencies and businesses other than the main service sponsor.

In Wisconsin, people around the state have learned to look to University of Wisconsin-Extension for authoritative information about their health. Tax dollars spent for University of Wisconsin support can be seen coming back home via a helpful, University-Extension service.

5. Conclusion

Telephone access to a consumer health education audiotape resource can provide a valuable service as a new health and wellness philosophy encourages persons to accept greater responsibility for their own health and that of their families. We expect utilization of this delivery system to expand as service availability bycomes statewide and nationwide.

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5. T.L. Hankey, "Planning and Implementing a Health Promotion Program", State Medical Society of Wisconsin, pp. 2-8, August, 1978.

APPENDIX 1

MAJOR PURCHASERS OF HEALTH-LINE MESSAGES
(Outside of Wisconsin)

AHEC-NORTHWEST, Fayetteville, AR

PROJECT WELL AWARE ABOUT HEALTH, Tucson, AZ

ARIZONA MEDICAL CENTER, Tucson, AZ

VETERANS ADMINISTRATION HOSPITAL, West Haven, CT

HARRY S. TRUMAN VETERANS HOSPITAL, Columbia, MO

VETERANS ADMINISTRATION HOSPITAL, New York, NY

VETERANS ADMINISTRATION HOSPITAL, Philadelphia, PA

CENTRAL PIEDMONT COMMUNITY COLLEGE, Charlotte, NC

WELBORN BAPTIST HOSPITAL, Evansville, IN

LAFAYETTE HOME HOSPITAL, Lafayette, IN

WESLEY MEDICAL CENTER, Wichita, KS

MANKATO STATE COLLEGE, Mankato, MN

MEDICAL UNIVERSITY OF SOUTH CAROLINA, Charleston, SC

RICHLAND MEMORIAL HOSPITAL, Columbia, SC

UNIVERSITY OF TEXAS, Arlington, TX

CENTRAL WASHINGTON DEACONESS HOSPITAL, Wenatchee, WA

NEW YORK UNIVERSITY HOSPITAL, New York, NY

NORTHWEST MISSOURI STATE UNIVERSITY, Maryville, MO

MEMORIAL HOSPITAL SYSTEM, Houston, TX

LONG BEACH MEMORIAL HOSPITAL, Long Beach, CA

WEST VIRGINIA STATE COLLEGE, Institute, WV

One message per cassette, same message both sides end to end, no need to rewind. Be sure to tell us if other format needed by your playback equipment. Time range 2 to 9 minutes, most messages about 4 minutes. Message is preceded by the following statement: "This is a HEALTH-LINE message from the University of Wisconsin-Extension and the Center for Health Sciences." (5 seconds)

TYPE A (About 91% of messages) $12.00 each

Can be used anywhere without change. Can be ordered as type B or C if individualization desired.

TYPE B (About 3% of messages) $18.00 each

End is renarrated to give local resource. Script is provided for your individualization. Can be ordered as type C if further individualization desired.

TYPE C (About 6% of messages) $30.00 each

Total message renarrated to give local information. Script provided for your individualization.

ORIGINAL MESSAGES (HEALTH-LINE customers only)

New messages to answer your own needs.

1. Narration-ready copy provided by client. $30.00 each
2. HEALTH-LINE edits and/or prepares script from client's script. $75.00 each
3. HEALTH-LINE researches and writes script. $150.00 each

ADDITIONAL COPIES OF ANY CASSETTE $6.00 each

Must be made at same time as original.

CUSTOM SERVICES

1. Making master of individualized leader or ending. $12.00 each
2. Adding leader or moving HEALTH-LINE leader to end, type A or B. $4.00 each
   You must replace our leader with yours or have 6 seconds silence at beginning of tape.
3. "This HEALTH-LINE message is ...." may be used in 2 above.

COMPUTER PRINTOUTS

Your HEALTH-LINE library list, order, messages not on your list, etc., on request.

1. 1-6 pages - first copy $1.60
2. 7-15 pages - first copy $2.35
3. Additional copies of above .60

SHIPPING CHARGE $1.00 + United Parcel Service or U.S. Mail _____

Is this your first HEALTH-LINE order? If so, please sign the Memorandum of Agreement form and enclose with order.

Have a large order? Phone us for computer order form: (608) 263-2858

APPENDIX 3

HEALTH-LINE
Memorandum of Agreement

(Name)
(Institution) _____ of

(Address) _____

(City) _____ (State) _____

as a purchaser of HEALTH-LINE messages from The University of Wisconsin-Extension, agrees to respect the following conditions of sale:

1. Prices of all messages shall be as stated on current price list.

2. If a message is withdrawn by HEALTH-LINE for medical reasons, upon notification, purchaser must return all cassettes of that message.

3. Customer accepts the responsibility of keeping his library current by ordering tapes which are marked in the catalog as revised or renarrated since purchase of those messages for his library. Customer will receive new editions of catalog but will not be notified when any message he has purchased is renarrated or revised unless as in "2" above.

4. Content of scripts and tapes is the property of the University of Wisconsin-Extension, Department of Continuing Medical Education, and may not be reproduced, sold, or made available to a third party.

5. Usage restricted to service center of purchaser.

6. Types B and C scripts are sold under condition that any tape forthcoming from individualization of the message shall be produced by HEALTH-LINE.

7. Non-HEALTH-LINE tapes may be produced by purchaser, or acquired from another source, provided no identification is made as to tape being a part of HEALTH-LINE.

8. Should the HEALTH-LINE logo be used on catalogues, brochures and printed materials, all tapes produced or acquired locally will be listed separately in a section clearly stating they are not a part of HEALTH-LINE library.

9. HEALTH-LINE and THE UNIVERSITY OF WISCONSIN assume no responsibility for actions or situations arising as a consequence of consumer response to any HEALTH-LINE message.

10. The existence of HEALTH-LINE service in no way relieves the attending physician of his legal obligations to inform the patient of possible undesirable situations pursuant to the prescribed procedure.

Institution _____

Name _____

Title _____

Date _____

Please return with first order only
Thank you

APPENDIX 4

UNIVERSITY OF WISCONSIN CENTER FOR HEALTH SCIENCES

Date: _____

Administrative Offices
7th Floor WARF Bldg.
610 Walnut Street
Madison, Wisconsin 53706
Phone: 608-263-4900

TO:

FROM: Marge Bartlett, Program Coordinator, HEALTH-LINE

RE: Periodical Review of HEALTH-LINE Library - Patient Information and Consumer Health Information Messages

In the interest of maintaining accuracy and presenting up-to-date information, we periodically review all messages in the HEALTH-LINE Library. I am enclosing a copy of the script for which you or a colleague originally supplied material. Could you take a few moments to read it over and telephone 263-3100, to hear the taped version?

Will you then please complete the lower portion of this memo and mail by _____ to:

Mrs. Marge Bartlett
HEALTH-LINE
610 North Walnut Street
W.A.R.F. Building
Madison, Wisconsin 53706

Many thanks for your contribution and good help!

Message Number: _____ Date: _____

Title: _____

Original Script or Material Supplied By: _____

_____

Reviewed By: _____

☐ Message up-to-date, no revision necessary

☐ If ever re-taped for other reasons, please include minor change as noted

☐ Revision necessary as noted on returned script

☐ I will be submitting a complete rewrite

☐ I have heard the taped message

Comment:

Thank you.

HEALTH-LINE HOUSTON

Carl S. Shannon, Jr.
Director of Development
Memorial Hospital System
Houston, Texas

Houston, Texas, a metropolitan area with more than 2.5 million people, is a recognized major medical center, but the area has relatively few programs for consumer oriented health information.

The Memorial Hospital System, a part of the Houston scene since 1907, recognized the need for a general health care information program and in 1978, made the decision to provide a dial accessed HEALTH-LINE service to the entire metropolitan area. The service is scheduled to begin in April, 1979.

The greatest current potential for improving the health of the American people and reducing the cost of health care is to be found in what people do, or do not do, to themselves and for themselves. The top four causes of death -- heart disease, cancer, stroke and accidents -- are often directly associated with life-styles which are injurious to good health. The responsibility for good health rests primarily with each individual, and it begins with individual awareness of health maintenance.

A program to be initiated by the Memorial Hospital System will:

1) encourage people to be more responsible for their own health;
2) prevent disease through an enhanced awareness of healthful life-styles;
3) improve the quality of health care through the cooperation of a better informed public;
4) reduce the overall health care costs by means of a better informed use of resources, earlier disease detection and increased good health.

We have chosen a health care information system which uses the telephone because the telephone gives us the opportunity to answer questions at the best possible time: when they are being asked.

HEALTH-LINE, the tape library of health and medical information as close as the telephone, is a project of the Memorial Hospital System to promote health care information throughout the Houston metropolitan area. Polly Ryon Memorial Hospital in Richmond, in partnership with the Memorial Hospital System, will offer HEALTH-LINE services toll free to the Richmond-Rosenberg area. Through this service anyone in the greater Houston area can call the HEALTH-LINE program to get pertinent answers to health care concerns. HEALTH-LINE tapes are written by physicians and other health care experts, and are selected under the approval of the Medical Education Committee of the Memorial Hospital System to reflect health care needs in our community.

HEALTH-LINE messages are designed to help people become better managers of their own health by understanding the symptoms of illness and the positive action which can be taken to help prevent serious disease or handicap. The service is not intended for emergencies or for self-diagnosis.

The tapes are reviewed regularly and revised when necessary in order to cover the most essential health care topics. New topics are also under continuous development to add to the library of health care information.

HEALTH-LINE callers remain completely anonymous. No names are taken, and there is no way to learn who is placing the call. This anonymnity encourages calls from those who might otherwise be reluctant to inquire.

Helpful brochures listing the topics by number and under general interest headings will be made available free of charge in many locations throughout the area. A caller may use the system by referring to the brochure or merely by asking for information on a certain subject. A caller is not required to have a brochure listing the messages available.

> HEALTH-LINE is a telephone health information system designed to: answer questions when they are being asked; encourage more healthful life-styles; and provide for earlier detection symptoms of disease.

HEALTH-LINE benefits both consumers and providers of health care by encouraging better and more efficient use of the community's health care resources.

Most importantly, HEALTH-LINE encourages people to accept primary responsibility for their own health maintenance.

HEALTH-LINE is scheduled to be in service sixteen hours a day, seven days a week.

HEALTH-LINE HIGHLIGHTS is an additional service to the regular HEALTH-LINE. HEALTH-LINE HIGHLIGHTS, reached through a separate telephone number, is a completely automatic message center which plays a "tape of the week" for callers. These "highlight" messages are selected from the HEALTH-LINE library and reflect the seasonal interests of the consumer population.

Spanish language tapes will also be available on HEALTH-LINE. Recorded information over the telephone is especially helpful to Spanish-speaking residents who may not have access to other health information. Such spoken information will be easily accessible and serve as a resource to those interested in better health for themselves and their families. It will aid health professionals who seek to provide better understanding of health concerns to Spanish-speaking residents.

The Spanish Department of Rice University has agreed to translate the English taped messages into written Spanish. These Spanish texts will be reviewed by Spanish-speaking resident physicians on the Memorial Hospital staff before they are recorded and offered to the public.

Most of the largest school districts in Harris and Fort Bend Counties wish to make HEALTH-LINE brochures available to the families of all students, faculty and staff. Municipal and county libraries also plan to distribute the brochures in the greater metropolitan area.

Health clinics at Rice University, The University of Houston, Texas Southern University and Houston Baptist University will also publicize the service. The City of Houston Health Department will distribute brochures in all of its clinics to encourage the use of HEALTH-LINE.

The Office of Civil Defense in Houston/Harris County wishes to develop a hurricane safety message and other appropriate tapes on public safety.

Throughout the development phase of this effort, we have consulted with Robert L. Brown, B.A., M.A., Director of Program Development and Evaluations for the Department of Family Practice of the University of Texas Medical School at Houston. Mr. Brown is developing an objective evaluation to be used at the end of a six month period, and again at the end of the first year of operation, which will asses the community impact of HEALTH-LINE. Planning for the future of HEALTH-LINE services will be guided by the findings of these evaluations.

The professional integrity of the program will be insured by the direction of C. Frank Webber, M.D., Chairman of the Medical Education Committee of the Memorial Hospital System and President-Elect of the Harris County Medical Society.

The resources of the community, the time of health professionals, and the good health of individuals will all be enhanced by an easily used and comprehensive information service.

Millions of dollars have been spent on program efforts and activities which have been labeled health education when they have embodied no behavioral science concepts nor health education principles in their planning, implementation, or assessment of results. HEALTH-LINE is a relatively low cost, hightly responsive system which encourages self-motivation and responsibility. It is medically and professionally sound. The program will be subject to close evaluation by qualified professionals.

The real malpractice problem in this county today is not one described on the front pages of daily newspapers, but rather the malpractice that people are performing on themselves and each other. HEALTH-LINE is one way that the rich treasure of health information can be made available in an attractive and highly efficient manner.

Notes on Equipment and Operation

Planning Considerations:

Houston is a "health-care" city, but it has no broadly based community education program on health care concerns. The HEALTH-LINE program is one part of a community health education program of the Memorial Hospital System.

Dial Access Technical Set-Up:

The particular tape decks selected by the Memorial Hospital System have the following characteristics:

1) Each of the sixteen tape decks is a complete unit in itself and can be removed from the system for maintenance without interrupting any of the other machines.

2) The tape decks can be serviced by our electronics shop or by the electronic equipment supplier.
3) The recorded messages are on reel-to-reel casettes of the standard common size. Each casette is recorded on both Side 1 and Side 2 with an identical message. This eliminates the necessity for high-speed rewinding which is wearing on both the tape itself and the tape deck. The tapes never need be rewound, and the tape deck itself is never operated at rewind velocity. Casettes are also stored more easily than the larger cartridges.
4) The tape deck siezes the telephone line immediately when a tape is inserted for play, and the tape deck releases the telephone line when the message is finished. No "inaudible signal" is required at the end of the message to turn off the tape deck. The motor of the tape deck is never in an "idle" mode; it runs only when a tape is being played.
5) Each of the sixteen incoming telephone lines requires an RDL coupler to connect with the telephone company.
6) The six completely automatic answering tape decks (HEALTH-LINE HIGHLIGHTS), once loaded correctly, need no operator assistance at all.

Communications Equipment Corporation of Madison, Wisconsin, supplied all the tape decks (modified Sanyo machines) and the custom consoles which house the machines and the tapes. Memorial Hosptial System is the sole owner of the machinery, and has no retainer fee agreement with the manufacturer.

The HEALTH-LINE console is placed in the telephonic communications room of the hospital, and all telephone operators are trained to operate the equipment. The HEALTH-LINE service is an integral part of telecommunications and has the support services necessary to provide service sixteen hours a day, seven days a week.

Dial Access Tapes:

A tape library of over four hundred titles was chosen with the following considerations:

1) Memorial Hospital System would be the sole owner of the tapes.
2) Memorail Hostpial System would not be required to enter into a retainer fee or service contract with the tape supplier.
3) Memorial Hospital System could produce locally, if it wished, any other taped messages of its choosing and use them without the permission of the original tape supplier and/or equipment manufacturer.
4) The tape supplier would have educational and medical integrity and be involved in the production of new titles and in the constant monitoring and review of existing titles.

The University of Wisconsin Extension Service, Madison, Wisconsin, was chosen to supply HEALTH-LINE tapes.

Budget for Twelve Months

Capital Expenses

Telephone/Tape Console	$ 9,276.73	
Taped Messages	5,301.00	
Installation	1,525.00	
Spanish language translation	11,256.00	
		$27,358.73

Operations Expense

Telephone charges	$ 8,520.00	
Personnel (console operators)	28,174.00	
Brochures (600,000)	10,178.00	
Publicity	4,000.00	
		50,872.00
TOTAL		$78,230.73

HEALTH-LINE
776-5050

Health-Line is a public service of Memorial Hospital System

Health-Line and Health-Line Highlights is a public service provided free of charge by the Memorial Hospital System, Houston, Texas, and the Polly Ryon Memorial Hospital for the Richmond-Rosenberg area.

Common health concerns
1422 The Russian flu
1138 Having headaches?
1141 The common cold
1279 The flu
1347 Postnasal discharge
1140 Venereal disease
1275 Gonorrhea and syphilis
1148 Venereal warts
1345 Genital herpes
1146 Lice are not nice!
1147 I think I have athlete's foot
1407 Calluses and corns
1406 Warts
1149 The itch (scabies)
1182 Constipation a problem?
1348 Let's talk about hemorrhoids
1205 Living with hayfever
1165 The magic formula for weight loss
1026 Are you taking antacids?
1302 Dietary treatment of an ulcer
1187 Taking tranquilizers?
1228 Who needs acne?
1207 Something in your eye?
1277 Who cares if you brush your teeth?
1169 Have you a chronic cough?
1298 Quit cigarettes — live longer!
1327 Varicose veins
1389 New Jersey swine flu
1316 Problem drinking
1433 Mumps
1437 Ringworm
1439 Spotting problem drinking
1441 Responsible drinking
1445 Alcohol: the number one drug
1447 Whooping cough
1456 Todays smokers

Diagnostic procedures
1425 Cystoscopy
1230 Measuring your own blood pressure
1318 Cardiac catheterization
1376 Thermography
1310 The colposcopic examination
1039 Proctosigmoidoscopy (procto)
1006 Blood studies
1001 What is an electrocardiogram? (EKG)
1016 An electroencephalogram? (EEG)
1064 Biopsy — what and why?
1073 Glucose tolerance tests
1063 Brain scan
1181 Radioactive tracers
1178 Thyroid studies
1188 Radiation from X-rays
1386 EMG and nerve conduction studies

For parents
1092 Keeping children healthy in winter
1321 Keeping children healthy in spring
1325 Keeping children healthy in summer
1096 Keeping children healthy in fall
1391 Block parent — a helping hand
1385 Nourishing snacks for little people
1158 What shots should my child have?
1214 Common injuries in children
1192 My child has a bad cold
1257 Earache in children
1191 My child has a fever
1212 Vomiting in children
1213 Management of vomiting in children
1211 Diarrhea in children
1206 What to do about colic
1413 Croup
1200 Your child and sleep problems
1201 Preparing your child for sleep
1409 Measles
1084 Impetigo trouble?
1288 Pinworms?
1218 Sudden infant death syndrome (SIDS)
1219 For patients of SIDS Babies
1396 The child with cerebral palsy
1222 Your child . . . T.B.?
1388 Cystic fibrosis
1250 Reye's Syndrome
1098 Your child has diabetes?
1137 Diabetic camp for your child?
1132 Could my child have cancer?
1314 Cancer in children
1133 What is leukemia?
1134 Leukemia treatment
1059 X-ray and your children
1289 The infant I.C.U. (intensive care unit)
1086 Hospital dentistry for children
1251 Will your child be poisoned today?
1237 Play — why and with what?
1415 Pets in the home
1398 The hyperactive child
1223 Arthritis in children
1224 Help for children with arthritis
1420 Sickle cell anemia
1373 Losing your cool with your child
1402 Sibling relationships
1436 Your child and drugs
1455 Responsibilities: parent to child

Special subjects
1377 An appointment with your physician
1040 Illness and marriage problems
1075 A chaplain speaks of discouragement
1410 Depression
1266 Living with an alcoholic?
1319 Facing loneliness when you're older
1186 Before you take the wheel

For children
1082 You've got chickenpox?
1094 Sue has rheumatic fever
1099 Linda has diabetes
1100 Joe goes to diabetic camp
1228 Who needs acne?
1416 Your pet
1231 The friendly wild animal (4-8)
1241 Chris Curious gets poison ivy (7-11)
1246 Chris Curious and the fire (7-11)
1248 Chris Curious and home safety (7-11)
1236 Jake — the important child (4-8)
1209 Are you afraid? I'm afraid (4-8)
1269 Lois Alert goes swimming (7-11)
1374 The year Santa almost quit (ages 3-7 toy safety)

Arthritis
1361 What is arthritis?
1394 What you should know about arthritis
1359 Osteoarthritis: a conversation
1362 Rheumatoid arthritis
1365 Systemic lupus erythematosus (SLE)
1357 What is ankylosing spondylitis?
1244 What do you know about gout?
1364 Juvenile rheumatoid arthritis
1380 Understanding juvenile rheumatoid arthritis
1363 A younger person talks of arthritis
1360 Parents discuss arthritis
1350 Living a full life with arthritis
1352 Arthritis: why make work easier?
1353 Arthritis: principles — easier work
1354 Arthritis: more about easier work
1367 Aspirin and arthritis
1366 Arthritis and quack remedies
1358 It's just rheumatism
1351 You and gold therapy
1186 Gold therapy procedure
1223 Arthritis in children
1224 Help for children with arthritis

Money matters
1195 Social security and kidney disease
1008 Why hospital costs are rising
1049 What about medicine?
1052 Medicine — questions and answers
1048 Social security disability payments
1196 Eligibility for medicine
1372 Professional negligence

Emergency care and safety
1379 Saving your back
1087 Prevention of ski injuries
1233 First aid treatment for frostbite
1234 First aid for burns
1235 About head injuries
1399 Do I have appendicitis?
1242 Carbon monoxide — the silent killer
1186 Before you take the wheel
1207 Something in your eye?
1278 Eye symptoms demanding immediate attention
1401 Smoke detectors are life savers!
1247 How to get out of a burning house
1249 Home, safe home
1250 Reye's syndrome
1251 Will your child be poisoned today?
1253 Outdoor enthusiasts and hypothermia
1254 Medic alert could save your life
1256 How will your child react in an emergency situation?
1259 Bike riders alert
1320 Rabies and animal bites
1400 First at an auto accident
1448 Summer safety for kids over sixty

Contraception and unwanted pregnancy
1297 Contraception — it's your choice
1034 The pill in perspective
1043 The pill — questions and answers
1044 The pill — more questions
1179 The diaphragm as a contraceptive
1180 The condom as a contraceptive
1158 Morning after contraception
1067 IUD facts
1397 Laparoscopy and tubal fulguration
1065 Thinking about vasectomy?
1193 An unwanted pregnancy?
1181 Facts about abortion
1408 Before you select abortion
1449 Natural birth control

Hospital Procedures
1083 Dental care for bed patients
1267 Urinary catheterization
1260 When is the artificial kidney used?
1262 Beginning hemodialysis treatments?
1003 What is oxygen therapy?
1072 What is respiratory therapy?
1070 News for ostomy patients
1170 Why am I in isolation?
1229 Ostomy appliances
1015 Blood transfusions and you
1061 Origin of donor blood

230

Cancer

1081 What is cancer?
1124 Protect yourself against cancer
1417 X-ray treatments and thyroid cancer
1101 Cancer of the head and neck
1115 Head and neck cancer treatment
1109 Post treatment care of cancer of the head and neck
1126 Cancer of the mouth
1122 Cancer of the larynx
1169 Have you a chronic cough?
1125 Cancer of the lung
1127 Is smoking really dangerous?
1198 Quit cigarettes — live longer!
1128 Tips to help you quit smoking
1130 Cancer of the breast
1120 Breast self-examination
1306 Treatment of breast cancer
1055 Rehabilitation for mastectomy patients
1129 Cancer of the skin
1301 Can moles become cancerous?
1110 Cancer of the stomach
1123 Cancer of the colon and rectum
1131 Cancer of the prostate
1308 Diagnosis and treatment of cancer of the prostate
1311 Testicular cancer
1312 Cancer of the uterus
1313 Pancreatic cancer
1314 About leukemia?
1316 Leukemia treatment
1317 Cancer in children
1318 Can my child have cancer?
1319 What is Hodgkin's disease
1320 Treatment of Hodgkin's disease
1321 Research in Hodgkin's disease
1322 Selection of cancer treatment
1323 Cancer chemotherapy
1324 Side effects of cancer chemotherapy
1325 Side effects of chemotherapy
1326 The use of radiation therapy
1327 Having radiation therapy?
1328 Side effects of radiotherapy
1329 Immunology and cancer
1330 Mothers, daughters, and D.E.S.
1331 The colposcopic examination
1332 Is cancer hereditary?
1333 Can estrogen therapy cause cancer?
1334 Cancer and your diet
1335 The secret cure for cancer
1336 Ostomy appliances

High blood pressure

1158 High blood pressure
1159 High blood pressure medicines?
1160 Controlling your hypertension
1161 High blood pressure medication
1162 Questions about high blood pressure
1230 Measuring your own blood pressure

Of interest to women

1053 Your hysterectomy
1056 Having a D & C?
1136 Cancer of the breast
1120 Breast self-examination
1376 Thermography
1375 Mammography and xerography
1306 Treatment of breast cancer
1055 Rehabilitation for mastectomy patients
1299 Cancer and your diet
1276 Vaginal infections
1272 Women and urinary tract infections
1066 Gonorrhea and women
1159 What is the RH factor?
1368 Amniocentesis
1424 Fetal monitoring
1378 Emergency Cesarean section
1280 Mothers, daughters, and D.E.S.
1310 The colposcopic examination
1160 Menopause problems?
1194 Menopause — questions and answers
1265 Before you begin your pregnancy
1412 Drugs during pregnancy
1404 Can I become pregnant?
1426 Menstruation (older girls and women)
1427 Pain during menstruation
1430 Living with your menstrual cycle
1431 Vaginal discharge
1438 Vaginal discharge treatment
1442 Drugs, pregnancy and the unborn
1457 Pregnancy, urine and blood sugar tests

Pharmacy

1028 Taking any medicine?
1007 Medicine — more is not better
1035 Re-using medicines
1383 Aspirin
1387 Sleeplessness and sleep inducers
1027 Oral medication for diabetes control
1011 Insulin for diabetes control
1036 Syringe use for diabetic patients
1010 Cardiac drugs are very special
1026 Are you taking antacids?
1187 Taking tranquilizers?
1370 Cortisone
1389 Drugs — generic or brand name?
1443 Over-the-counter medications
1444 How to use prescription products

General health information

1089 Diabetes? What does it mean?
1203 What causes asthma?
1204 The treatment of asthma
1154 No time for exercise? (younger people)
1077 Physical fitness through exercise (older people)
1184 Are you greatly overweight?
1245 Knowing your kidneys
1208 Epilepsy — control and treatment
1198 Living and working with an epileptic person
1199 How to avoid epileptic seizures
1202 Epilepsy — looking to the future
1390 What is cerebral palsy
1177 What is muscular dystrophy?
1197 Parkinsonism
1190 Myasthenia gravis
1189 What is multiple sclerosis?
1274 Emphysema
1283 Peptic ulcers
1291 Infectious mononucleosis
1225 Are you protected against polio?
1183 Immunizations for travel
1317 Encephalitis from mosquitoes
1356 Hepatitis
1393 Wondering about ear-piercing?
1411 Hearing loss from otosclerosis
1420 Sickle cell anemia
1418 Meningitis
1432 The pneumonias
1428 Lung disease caused by dust
1229 Ostomy appliances
1382 Strep! Throat

About your eyes

1207 Something in your eye?
1221 What about cataracts?
1215 Do you know if you have glaucoma?
1216 Should I wear contact lenses?
1278 Eye symptoms demanding immediate attention
1286 Floating strings in your eye?
1243 Do you have double vision?
1419 Stye in your eyelid

Urinary system

1425 Cystoscopy
1267 Urinary catheterization
1268 Going home with a urinary catheter?
1009 Bladder and kidney X-ray (IVP)
1272 Women and urinary tract infections
1271 What kidneys do for you
1270 How to prevent kidney disease
1339 Kidney stones
1340 Treatment for kidney stones
1260 When is the artificial kidney used?
1262 Beginning hemodialysis treatments?
1261 Home hemodialysis
1195 Social security and kidney disease

Food and diet

1012 What is a "no added salt" diet?
1005 Seasonings and the low salt diet
1025 Dining-out on a low sodium diet
1013 Special dietetic foods?
1302 Dietary treatment of an ulcer
1292 The low cholesterol diet
1299 Cancer and your diet
1078 The botulism story
1153 Will the food I serve cause illness?
1162 Tips on keeping food safe
1155 Have a weight problem?
1164 Sense and nonsense about calories
1165 The magic formula for weight loss
1152 Health foods and fad diets
1151 Are you a vegetarian?
1150 Food for health
1384 Nutrition during pregnancy
1421 Are vitamin supplements necessary?
1095 Should my family use iodized salt?
1451 Planning economical nutritious meals
1452 Meal planning and marketing tips
1453 Eat well for less

Heart and blood vessels

1080 Understanding a heart attack
1101 Regular heart checkups
1102 Obesity
1103 Exercise
1104 Smoking
1105 Rheumatic fever
1106 Strokes
1107 Atherosclerosis
1108 High blood pressure
1109 How to stop smoking
1110 Chest pains
1111 Cardiopulmonary resuscitation
1112 Diet and heart disease
1088 What is hardening of the arteries?
1093 Prevent hardening of your arteries
1113 Prevention of heart attack
1114 Your legs and your heart
1115 Heart block
1116 Digitalis
1117 Diabetes and heart disease
1042 Foot care if you have diabetes or poor circulation
1118 Fainting and blackout spells
1119 Heart failure
1318 Cardiac catheterization
1395 Heart pacemakers

Nuclear medicine

1017 Liver scan
1063 Brain scan
1161 Radioactive tracers
1178 Thyroid studies

About drugs

1068 A friend is on a bad trip
1069 Marijuana — fables and facts
1085 What about barbiturates?
1091 What is a drug?
1156 Alcohol is a drug
1220 Alcohol hurts your health
1157 Amphetamines
1217 Sopors and Quaaludes
1226 LSD — a short report
1187 Taking tranquilizers?
1326 Cocaine
1316 Problem drinking
1435 PCP (phenylcyclidine)
1436 Your child and drugs
1439 Spotting problem drinking
1441 Responsible drinking
1445 Alcohol: the number one drug
1446 Valium and other minor tranquilizers

Dental

1263 Periodontal disease
1264 Root canal treatment
1238 Water fluoridation — a preventative measure
1083 Dental care for bed patients
1086 Hospital dentistry for children
1277 Who cares if you brush your teeth?
1329 How to cure a toothache
1330 Bleeding gums?
1331 Worried about bad breath?
1332 Saving abscessed teeth
1333 How important are baby teeth?
1346 Have a baby — lose a tooth?
1334 Diet for a healthy mouth
1335 Missing Teeth?
1336 About dentures
1337 Dental X-rays
1338 Plaque attack!
1239 Water fluoridation — is it safe?

X-ray

1375 Mammography and xerography
1009 Bladder and kidney X-ray (IVP)
1059 X-ray and your children
1057 Gallbladder X-ray
1058 X-ray of your large bowel
1047 Stomach and small intestine X-ray
1046 Having a myelogram?
1342 Computerized tomography brain scan
1454 Tell me about X-rays
1063 Brain scan
1161 Radioactive tracers
1178 Thyroid studies
1188 Radiation from X-rays

Surgery

1399 Do I have appendicitis?
1378 Emergency Cesarean section
1056 Having a D & C?
1053 Your hysterectomy
1397 Laparoscopy and tubal fulguration
1065 Thinking about vasectomy?
1423 Facing an operation
1038 Before and after surgery
1064 Biopsy — what and why?
1349 Hemorrhoidectomy
1328 Varicose vein stripping

Leaving the hospital?

1268 Going home with a urinary catheter?
1071 Nursing homes

Salud por teléfono

1124S El modo de protegerse contra el cancer
1120S Autoexamen de los senos
1270S La prevención de enfermedades renales
1381S Conozca su presion de sangre
1280S Si usted tiene alta la presion de sangre
1273S ¿Cuales son los peligros de la hipertension?
1298S Deje los cigarillos ¡viva más tiempo!
1140S Las enfermedades venereas
1153S ¿Causara enfermedades la comida que sirvo?
1162S El manejo higienico de la comida
1078S El botulismo
1065S ¿Esta usted pensando en la vasectomía?
1034S La píldora en perspectiva
1043S La píldora — preguntas y respuestas
1044S La píldora — más preguntas y respuestas
1001S ¿Que es un electrocardiograma?
1009S Radiografías de la vejiga y los riñones
1017S Radiografía del hígado
1047S Radiografías del estómago e intestino delgado
1039S ¿Que es proctosigmoidoscopía?
1038S Cirugía — mito y realidad
1146S Los piojos y las liendras
1069S La mariguana

HOW TEL-MED PLAYS IN PEORIA, ILLINOIS

F. T. Smith, III, M.H.A.[1]
Administrator
Allied Agencies Center
Peoria, Illinois

In 1958, three voluntary health agencies met to explore the possibility of establishing a joint facility where services for physically, mentally and multiply handicapped of the community could be better coordinated. By 1962, five agencies, with the cooperation and advice of a community-wide, multi-specialty Medical Advisory Committee, had joined the effort to obtain a common physical facility. The facility would become a center from which the ever-increasing needs of a growing community could be met with efficiency and economy. To accomplish this goal, a community organization composed of leaders in business, professional, civic, and labor activities was formed. The challenge of a centralized facility, that concerned many, was accepted by this group known as Central Illinois Health Services, Inc., the predecessor of the Allied Agencies Center Board of Directors. Their objective was to develop a multi-service center that could effectively bring the many activities of several agencies together to share major costs of facilities, equipment and services, as well as medical, professional and volunteer personnel. Cooperative planning was emphasized to gain cooperative benefits.

In 1966, the intense efforts of these dedicated leaders were culminated in a federal grant of 1.5 million dollars for two-thirds of the cost of construction of the Center. The County of Peoria, through its Board for the Care and Treatment of Mentally Deficient Persons, provided necessary local funds in the amount of $750,000. Public contributions provided $70,000.00 toward the equipping of the Center. Completed in 1969, the Allied Agencies Center was dedicated on May 31, 1969, the first of its kind, a model for the nation.

The Allied Agencies, currently serve 1 out of 50 people in the Greater Peoria Area and include: The Arthritis Foundation, The Community Workshop and Training Center, The Crippled Children's Center, The Cystic Fibrosis Research Foundation, The Illinois Valley Mental Health Association, The Human Service Center of the Peoria Area, The Peoria Association for Retarded Citizens, The Peoria County Board for the Care and Treatment of Mentally Deficient Persons, The United Cerebral Palsy Association of Northwestern Illinois, and The Vocational Evaluation and Training Section of the Institute of Physical Medicine and Rehabilitation. The Allied Agencies focuses attention on the task of educating, training and rehabilitating the physically and multiply handicapped so that they might lead useful, purposeful and self-sufficient lives.

An integral part of the Peoria Medical Complex, the Allied Agencies Center is an affiliated institution of the Peoria School of Medicine University of Illinois, College of Medicine. In the Fall of 1975, the University of Illinois, through the Region 1-B Area Health Education System, and the Allied Agencies Center initiated a conjoint project to develop and maximize the educational and research potential of the Center's unique service resources. This project was designed to provide an interphase through which the community's academic service resources could work together to effectively respond to the needs of the community.

Since its inception, the Allied Agencies Center has been involved in Community/Consumer Health Education on a limited basis. Getting accurate health information to the public when it is needed has baffled the ingenuity of the medical-dental educational community for decades. Delivering it economically has exasperated nearly everyone. Peoria, Illinois is no exception!

During the month of August, 1977, discussions were initiated to address the question, "How could the community be made more aware of the facilities and services provided through the Allied Agencies Center?" Other concerns expressed included the fact that there was no single, easily accessible source for medically accurate health information in the community, and the fact that the piecemeal educational efforts of the Allied Agencies Center itself as a corporate entity had virtually no impact whatsoever on the community.

During these discussions the Allied Agencies Center/Area Health Education System Educational Research Staff Associate suggested that the feasibility of initiating a telephone health consumer education program be explored. Included in these discussions were "key" individuals representing all segments of the community.

Tel-Med was selected as the dial access system of choice for the following reasons:

1. Tel-Med was a proven system having been created by the San Bernidino County Medical Society in 1972 through funding assistance from the American Medical Association, California Medical Association and the United States Department of Health, Education and Welfare. Since its inception, Tel-Med had grown from a single program offering a fifty-tape library to over ninety programs operating in most major urban areas.

2. All Tel-Med Tape scripts were written by physicians and other health care specialists. Tapes are reviewed at least annually to include only the most current and accurate information.

3. Tel-Med tape content is presented in straight forward, easy-to-understand language.

4. The Tel-Med tape library is easily accessible from any telephone. Therefore, its potential use should have wide consumer appeal.

5. Other communities' experience appeared to indicate that Tel-Med was cost effective.

6. The Teletronix playback equipment required for the program was already in place for another program (Tel-Money) in the community at The First National Bank of Peoria.

7. The content of all Tel-Med Tapes had to be approved by a local medical review board of practicing physicians, thereby assuring quality control and physician input.

In order to implement Tel-Med in Peoria, efforts were undertaken to gain support of the medical community. Endorsements of the Tel-Med project were obtained through the efforts of the Allied Agencies Centers' Medical Director and Chairman of the Medical Advisory Committee from: The Executive Committee of the Medical Advisory Committee of the Allied Agencies Center; The Department of Preventive Medicine and Community Health of the Peoria School of Medicine, College of Medicine, University of Illinois; and the Peoria Medical Society.

The First National Bank of Peoria graciously contributed the complete Teletronic System to the Allied Agencies Center. Additional start-up funding for the Tel-Med project was provided by the Caterpillar Tractor Company. The Peoria School of Medicine, Area Health Education System provided technical assistance and support.

On September 12, 1978, Allied Agencies Center initiated Tel-Med, one of the most far-reaching Community Health Information programs, consisting of prerecorded telephone access taped messages designed to:

Assist the caller in recognizing early signs of illness so that the caller might take appropriate action.

Help the caller understand and adapt to illness and injury.

Increase the caller's awareness of the importance of good health habits.

The easily understood Tel-Med Tapes are three to five minutes in length. Each Tel-Med Tape in the Allied Agencies Center library has been reviewed and endorsed by the Peoria Medical Society.

Promotion for Tel-Med began with a resident bulk rate, non-profit mailing of the Tel-Med directories (Exhibit A), listing all available tapes, to 86,679 households throughout the Greater Peoria Area. An additional 20,000 Tel-Med Directories, together with the Tel-Med posters (Exhibit B), were distributed through other community sources to all physicians' offices, pharmacies, and approximately 500 other business establishments throughout the area.

A comprehensive press kit was developed for all local news media. Included in the press kits were 10, 20 and 30 second radio public service spot announcements, television public service spot announcements combined with slides, and news releases for newspapers. Press kits also were provided all major employers for inclusion in employee newsletters and publications.

In order to provide the community with Tel-Med on a 24 hour per day, seven days per week, full-time basis, arrangements were made for all five incoming lines to be answered by Telephone Answering Service of Peoria. There-

fore, Tel-Med was easily accessible to the calling public.

Initial response to Tel-Med from the Community and the local news media exceeded all expectations (Exhibit C). During its first week of operation, incoming call volume averaged approximately 1,100 calls per 24 hour period. For the first six weeks of operation, call volume averaged 683 incoming calls per day. This can be directly attributed to the support Tel-Med received from the local news media.

Area hospitals have been supportive of Tel-Med by displaying the Tel-Med poster in their key patient care areas and emergency rooms. The Patient Coordinator of one of Peoria's hospitals developed a set of instructional materials including the Tel-Med Directory which is given to all patients upon admission.

All students entering Bradley University also are receiving Tel-Med Directories.

Tel-Med Incoming Call volume currently has leveled out at approximately 3,600 incoming calls per month.

In order to assure the continued success and build a more effective marketing base for the Tel-Med project, a student internship in marketing was established with the Marketing Department of Bradley University's College of Business Administration. The intern's task is to develop during the Winter/Spring 1979 semester a two-phase marketing plan for Tel-Med directed toward (1) consumers and (2) health professionals.

The following are the results of a preliminary telephone survey that was taken of Peoria area health professionals. The sample population of 62 was randomly selected from the membership roster of the Peoria Medical Society for 1978-1979.

TEL-MED PROGRAM FAMILIARITY:

Knowledge of program	60%
No knowledge of program	35%
Total	95% *

OF THE TEL-MED DIRECTORIES AND POSTERS MAILED OUT:

Received directory only	21%
Received poster only	8%
Received both	19%
Received neither	47%
Total	95% *

HAVE TEL-MED POSTER DISPLAYED IN WAITING ROOM:

Displays poster	13%
Does not display poster	82%
Total	95% *

HAVE TEL-MED DIRECTORIES AVAILABLE TO PATIENTS:

Directories are available	15%
Directories are not available	81%
Total	95% *

PROMOTION OF TEL-MED TO PATIENTS:

Suggests use of Tel-Med	21%
Does not suggest use of Tel-Med	74%
Total	95% *

*The survey had a non-response rate of 5 percent.

In analyzing the results of the survey, the following realizations and conclusions about the Tel-Med program have been made.

1) Less than two-thirds of the health professionals surveyed had any knowledge of the existence of the Tel-Med program.

2) The major portion of those health professionals who were knowledgeable of the Tel-Med program consisted of General and Family Practitioners. However, many specialists (i.e., Ear-Nose-Throat, Internist, Genito Urinary) also found that Tel-Med was very useful in their practices.

3) Although Tel-Med Directories and posters were mailed to all members of the Peoria Medical Society, almost half of those contacted stated that either they did not receive them or

that the directory and poster must have been discarded.

4) Regarding those health professionals who did state that they had received the directory and/or poster, very few displayed the poster or had the directory available for patient distribution.

5) Very few health professionals (only one-fifth) promoted the use of Tel-Med to patients. While those who did promote Tel-Med held an extremely favorable attitude towards the program, reasons such as not having enough knowledge about the program or that a little knowledge in the hands of the patient is dangerous were given by those participants who did not promote the program.

6) Regarding the likes/dislikes of the Tel-Med program, only 19% of those contacted made any comments about the program. Those participants who did comment felt the program was "an excellent idea" which was "very informative" but "not very well publicized".

To obtain information regarding the present use of Tel-Med by consumers, survey sheets were provided by Allied Agencies Center to the Telephone Answering Service of Peoria. These sheets were designed to collect daily data with regard to total number of calls, tape usage, type of caller, and hourly call rates. The following tables list the data obtained from these survey sheets during the months of January and February 1979.

TOTAL NUMBER OF CALLS:

Month	Daily Average	Monthly Total
January	125	3,640
February	127	3,556

TYPE OF CALLER:

	January	February
Male	39%	34%
Female	47%	51%
Child	14%	15%

HOURLY CALL RATES:

Calls by Hour	January	February
7 - 8 a.m.	0.9%	1.5%
8 - 9 a.m.	2.5%	2.4%
9 - 10 a.m.	4.9%	3.0%
10 - 11 a.m.	5.5%	4.5%
11 - 12 noon	5.1%	5.2%
12 - 1 p.m.	7.3%	5.5%
1 - 2 p.m.	7.4%	5.0%
2 - 3 p.m.	9.6%	6.7%
3 - 4 p.m.	9.1%	8.1%
4 - 5 p.m.	7.0%	9.1%
5 - 6 p.m.	5.6%	8.5%
6 - 7 p.m.	5.3%	7.8%
7 - 8 p.m.	6.0%	6.2%
8 - 9 p.m.	5.8%	5.7%
9 - 10 p.m.	6.3%	7.2%
10 - 11 p.m.	3.9%	6.2%
11 - 12 midnight	2.7%	2.6%
12 - 1 a.m.	1.5%	1.7%
1 - 2 a.m.	1.4%	0.9%
2 - 3 a.m.	1.0%	0.8%
3 - 4 a.m.	0.4%	0.6%
4 - 5 a.m.	0.2%	0.1%
5 - 6 a.m.	0.3%	0.0%
6 - 7 a.m.	0.3%	0.7%

MONTHLY CALL AVERAGE BY DAY OF WEEK:

Day	January Call Average	February Call Average
Monday	120	141
Tuesday	134	143
Wednesday	131	152
Thursday	169	141
Friday	173	121
Saturday	83	109
Sunday	68	85

TEN MOST REQUESTED TAPES:

January, 1979

Tape #	Tape Name	Number of Requests
1050	Male Sexual Response	788
889	Female Sexual Response	713
1180	Homosexuality	108
12	Am I Really Pregnant?	97
174	Masturbation	80
137	Marijuana	57
402	"Where Did I Come From, Mama?"	44
8	Venereal Disease	40

February, 1979

Tape #	Tape Name	Number of Requests
889	Female Sexual Response	477
1050	Male Sexual Response	420
174	Masturbation	317
1180	Homosexuality	114
12	Am I Really Pregnant?	92
1	Vasectomy	68
137	Marijuana	57
15	Syphilis	45
16	Gonorrhea	38
50	Teen Years-Age of Rebellion	38

In analyzing the data collected from the monthly survey sheets, the following realizations and conclusions about the consumer use of Tel-Med have been made.

1) After an overwhelming start, the total number of calls per month seems to have leveled off at approximately 3,600 calls per month. This dramatic reduction appears to be directly related to publicity. Call volume should increase as publicity increases.

2) While females are presently the predominant callers, males are also heavy users of Tel-Med, and children represent less than one-fifth of the total callers presently using the program.

3) The percentage of calls per hour remained relatively consistent throughout the 24-hour period with the peak hours being those between 2 p.m. and 7 p.m.

4) When averaging monthly calls by days of the week, the days receiving the highest averages were found to be Fridays in January and Wednesdays in February. Other weekdays also received a substantial number of calls, while weekend averages were considerably lower.

5) Regarding the most requested tapes, those containing information on subjects which are not openly discussed received the most requests.

6) In both January and February, 1979 a number of calls (an additional 3% each month) can be attributed to hang-ups, wrong numbers, and consumers seeking additional information.

Although all of the above listed findings are conclusive for the two months analyzed, it must be remembered that these are only two out of twelve months. Further monthly analysis will be necessary to determine whether or not these findings are valid on a yearly basis.

Peoria's Tel-Med consumer health information project has not been in existence long enough to draw any hard and fast conclusions as to the impact it has had in bringing about changed behavior on the part of the caller. A number of questions still remain unanswered: i.e., Has the Tel-Med caller recognized the signs of early illness and taken appropriate action? How has Tel-Med helped the caller adapt to illness and injury? Has the availability of Tel-Med really made a difference in the health of the community? Consequently, there is need for additional research to address these and other questions.

Call volume, however, can be measured in terms of the number of incoming calls received, the most frequently requested tape, etc. Using call volume as an indicator, it appears that there is a need to have a well-rounded marketing or publicity campaign designed to reach the target audience. This appears to be essential if a high incoming call volume is to be maintained.

Finally, physicians and other health professionals must continue to monitor and reexamine health education activities such as Tel-Med to assure that the activity is indeed relevant, cost-effective, and meeting a community need. This is essential in order to maximize available health education resources.

[1]The author expresses appreciation to Mary Jo Gilgenbach, Bradley University Marketing Intern for her assistance in the preparation of this paper.

WHAT IS TEL-MED?

Tel-Med is one of the most far-reaching community health information programs and consists of prerecorded taped messages designed to:

- Assist you in recognizing early signs of illness so that you might take appropriate action.
- Help you to understand and adapt to illness and injury.
- Increase your awareness of the importance of good health habits.

The easily understood Tel-Med tapes are 3 to 5 minutes in length. Each tape has been reviewed and endorsed by the Peoria Medical Society.

Tel-Med is NOT to be used:

- In any emergency.
- To diagnose your illness or to suggest any form of treatment. Only your physician can do this. If you do not have a physician call The Peoria Medical Society - 309-676-2351.

HOW DOES TEL-MED WORK?

Call 309-672-6321. Give the Tel-Med operator the number and title of the tape you wish to hear. If you wish to have the tape repeated or wish to hear another tape, call back and request it by number and title. Tel-Med tapes are successful, educational and completely confidential.

Your Allied Agencies Center is grateful for the support the Tel-Med Community Health Information Service has received from the Caterpillar Tractor Co., the First National Bank of Peoria, and the University of Illinois, Peoria School of Medicine, Area Health Education System.

For additional copies of this Tel-Med Directory, call or write your Allied Agencies Center, 320 East Armstrong Avenue, Peoria, Illinois 61603 - 309-672-6341, or any of the Allied Agencies:

Arthritis Foundation, Central Illinois Chapter
Community Workshop and Training Center
Crippled Children's Center, Inc.
Cystic Fibrosis Foundation, Central Illinois Chapter
Illinois Valley Mental Health Association
Human Service Center of the Peoria Area, Inc.
Peoria Association for Retarded Citizens
Peoria County Board for the Care and Treatment of Mentally Deficient Persons
United Cerebral Palsy Association of Northeastern Illinois
Vocational Evaluation and Training Section of the Institute of Physical Medicine and Rehabilitation

Allied Agencies Center
320 E. Armstrong Ave
Peoria, Illinois 61603

ALLIED AGENCIES CENTER

TEL-MED
309-672-6321

Call 309-672-6321!
Give the Tel-Med Operator the number and title of the tape you wish to hear.

TEL-MED

ADOLESCENTS
101 Teen Years - Age of Rebellion
102 Advice for Parents of Teenagers
103 Acne
104 Masturbation
105 Infectious Mononucleosis
106 Homosexuality

ALCOHOL AND DRUG ABUSE
107 LSD
108 Amphetamines and Barbiturates (up and down drugs)
109 Marijuana
110 Narcotics
111 Do You Have an Alcoholic
112 How AA Can Help the Problem Drinker

ARTHRITIS - RHEUMATISM
113 Gout
114 Arthritis - Rheumatism
115 Rheumatoid Arthritis
116 Bursitis
117 Arthritis and Disorders

BIRTH CONTROL
118 Abstinence
119 Tubal Ligation
120 Birth Control
121 The Pill
122 Intrauterine Devices
123 The Rhythm Method
124 Diaphragm, Foam and Condom

CANCER
125 Breast Cancer
126 Cancer of the Prostate Gland
127 Cancer - Patient Services & Rehabilitation Info
128 Reconstruction of the Breast Cancer Patient
129 Cancer
130 Cancer of the Colon and Rectum
131 Cancer - The Curable Disease
132 What Is A Pap Test?
133 Cancer - Seven Warning Signals
134 Hodgkin's Disease
135 Cancer of the Skin
136 Uterine Cancer
137 Drugs That Treat Cancer
138 Radiation Therapy for Cancer
139 Childhood Cancers
140 Thyroid Cancer
141 Leukemia
142 Cancer of the Bone
143 Cancer of the Bladder
144 Cancer of the Brain
145 Cancer of the Larynx
146 Cancer of the Mouth
147 Cancer of the Stomach

CHILDREN
148 Can Medicines in the Home Poison Your Child?
149 Premature Infant
150 Stuttering & Other Speech Defects
151 Is Your Baby Deaf?
152 No, No - What Does It Mean to the Toddler?
153 When A New Baby Creates Jealousy
154 The Premature Baby
155 Epilepsy in Children
156 Hyperactivity
157 Bedwetting
158 Tics - A Child's Cure for Anxiety
159 Mouth to Mouth Resuscitation - Small Children and Infants
160 Masturbation
161 Mumps
162 Croup
163 Should I Keep My Child Home From School?
164 Measles
165 Chickenpox
166 Cleft Lip and Palate
167 Hearing Loss in Children
168 Speech Problems in Children
169 Diabetes in Children
170 Lungs and Protruding Ears
171 Lazy Eye in Children
172 Whooping Cough
173 Meningitis
174 Non-essential Vaccinations for Your Children
175 Sudden Infant Death
176 Personal Hygiene for a Child
177 Where Did I Come From, Mommy?
178 The Young Child's Eating and Meals - Pleasure or Problem?
179 Brothers and Sisters Getting Along Together
180 Accidents, Safety and Young Children
181 Discipline and Punishment - Where Do You Stand?
182 Sports Tips for Youngsters
183 The League Team

DENTAL HEALTH
184 Effective Toothbrushing
185 Malocclusion - Crooked Teeth
186 What About Wisdom Teeth?
187 Seven Warning Signs of Gum Disease
188 Why and When Some Teeth Have to be Replaced
189 How Important are Baby Teeth?
190 Abscessed Teeth Can Be Saved
191 What You Don't Know About Dentures Can Hurt You
192 We Know What Causes Bad Breath. Do You?

DIABETES
193 You May Have Diabetes and Not Know It
194 Diabetes in Children
195 Answers to Questions Often Asked About Diabetic Diets

DIET AND NUTRITION
196 Obesity
197 Vitamins in Your Diet
198 How Important Are Trace Minerals in Your Diet?
199 Breakfast: Why is it Important?
200 Nutrition in Pregnancy
201 Snacks
202 Answers to Questions Often Asked About Diabetic Diets

DIGESTIVE SYSTEM
203 Hemorrhoids
204 Ulcers
205 Colitis and Bowel Disorders
206 Diarrhea
207 Gall Bladder Trouble
208 Diverticulosis - Diverticulitis

EYE, EAR, NOSE AND THROAT PROBLEMS
209 Wax Ear
210 Earache in Children
211 Otosclerosis: One Cause of Hearing Loss
212 Large and Protruding Ears
213 Tooth Hearing Loss to Hearing Aid
214 Seeing Spots and Floaters
215 Cataracts
216 Facts and Fancies About Contact Lenses
217 Glaucoma

FIRST AID AND SAFETY
218 Are Medicines in the Home Poison Your Child?
219 Thermal Burns
220 Mouth to Mouth Resuscitation (small children and babies)
221 Mouth to Mouth Resuscitation (adults)
222 First Aid for a Person Suspected of Having a Heart Attack
223 Choking
224 What You First Suspect Unconscious
225 Choking
226 Animal Bites
227 Bee Stings
228 First Aid for Chemical Burns
229 The Aid-Giving Nurse
230 Seat Belts for Safety
231 Accidents, Safety and Young Children
232 Cuts and Lacerations of the Skin
233 Health Hints for Caregivers
234 What To Do During a Smog Alert
235 Bite Injuries to Your Face or Dog
236 Your New Puppy

GENERAL HEALTH
237 Hemorrhoids
238 Tension
239 Understanding Headaches
240 Backaches
241 Do Just Tired Doctor
242 Obesity
243 Leg Cramps and Aches
244 Lice - Public, Head and Body
245 Blood Transfusion - Blood Bank
246 Fleas, Dirty and Dangerous
247 Chest Pains
248 Kidney Stones
249 Appendicitis
250 Hay Fever
251 Mole
252 Electric Burns
253 Mouth to Mouth Resuscitation (adults)
254 Fainting
255 Epilepsy Convulsions
256 When You Find Someone Unconscious
257 Choking
258 First Aid for Chemical Burns
259 Epilepsy
260 Emotional Experiences of the Dying
261 Hypnosis
262 Home Care for the Radiation Patient
263 How To Take Temperature, Pulse & Respiration
264 Masturbation
265 What Happens When a Dog Bites?
266 Colitis and Bowel Disorders
267 Meningitis
268 Hypoglycemia
269 Sickle Cell Anemia
270 Diarrhea
271 Gall Bladder Trouble
272 Infectious Mononucleosis
273 Herpes
274 Cuts and Lacerations of the Skin
275 Health Hints for Campers
276 What To Do During A Smog Alert
277 Exercising - Warm Up Slowly
278 Blood In The Urine
279 Kidney and Urinary Tract Infections
280 Hypersensitivity
281 Developmental Disabilities
282 Cerebral Palsy
283 Mental Retardation
284 Autism

HEART DISEASE AND STROKE
285 Cigarettes & Heart Disease
286 Diet and Heart Disease
287 Hypertension and Blood Pressure
288 Stroke and Aneurysm
289 How to Decrease Risk of Heart Attack
290 Atherosclerosis and High Blood Pressure
291 Angina Pectoris
292 Early Warning of Heart Attack
293 Chest Pains
294 First Aid for a Person Suspected of Having a Heart Attack

MEN
295 Impotency
296 Masturbation
297 Male Sexual Response
298 Homosexuality

MENTAL HEALTH
299 Emotional Experiences of the Dying
300 Hypnosis
301 Good Emotionalism - Help is Available
302 Psychosomatic Illness - Is Not All in Your Head
303 Schizophrenia
304 When Should I See A Psychiatrist?

PARENTING
305 No, No - What Does It Mean to the Toddler?
306 Teen Years - Age of Rebellion
307 When A New Baby Creates Jealousy
308 Advice for Parents of Teenagers
309 Should I Keep My Child Home From School?
310 Where Did I Come From, Mommy?
311 The Young Child's Eating and Meals - Pleasure or Problem?
312 Brothers and Sisters Getting Along Together
313 The Single Parent Family
314 Discipline & Punishment - Where Do You Stand?

PREGNANCY
315 Am I Really Pregnant?
316 Unwanted Pregnancy
317 The Premature Baby
318 What Causes Miscarriages?
319 Warning Signs in Pregnancy
320 Infertility
321 Nutrition in Pregnancy
322 Breast Feeding Your Baby

PUBLIC INFORMATION
323 Social Security and SSI
324 Medicare
325 What is Tel-Med?

RESPIRATORY
326 Pulmonary Emphysema
327 Influenza
328 Cystic Fibrosis
329 Whooping Cough
330 The Flu
331 Bronchial Asthma
332 Chronic Cough

SKIN DISORDERS
333 Psoriasis
334 Ringworm
335 Why the Mystery About Psoriasis?
336 Impetigo
337 Shingles
338 Acne

SMOKING
339 Weight Control While Quitting Smoking
340 Why A Woman Should Stop Smoking
341 Reducing the Risks of Smoking
342 How Smoking Affects Your Health
343 Do You Want to Quit Smoking?
344 What Do You Get Out of Smoking?
345 Guidelines to Help You Quit Smoking
346 Effects of Cigarette Smoke on Non-Smokers

V.D.
347 Venereal Disease
348 Syphilis
349 Gonorrhea

WOMEN
350 Breast Cancer
351 Am I Really Pregnant?
352 Abortion
353 Vaginitis
354 Unwanted Pregnancy
355 Do Just Tired Doctor
356 Tubal Ligation
357 The Pill
358 Intrauterine Devices
359 The Rhythm Method
360 Diaphragm, Foam, and Condom
361 The Premature Baby
362 What Causes Miscarriages?
363 Warning Signs in Pregnancy
364 Infertility
365 The Late Losing Alone
366 Menopause
367 Masturbation
368 What is A Pap Test?
369 Breast Feeding Your Baby
370 Female Sexual Response
371 Homosexuality

IMPORTANT! SAVE THIS DIRECTORY — IT'S YOUR TEL-MED TAPE GUIDE!

Exhibit A -- Tel-Med Directory

Need Health Information?

TEL-MED 672-6321

ALLIED AGENCIES CENTER
320 E. Armstrong Avenue
Peoria, Illinois 61603

Exhibit B -- Tel-Med Poster

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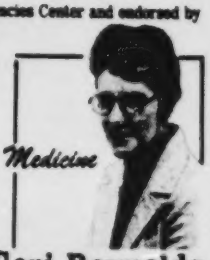
Tel-Med Will Provide 24-Hour Service

Health Information By Phone

Are there times when you'd like accurate and concise information about mumps, birth control, dental health, first aid and safety, or perhaps health in general?

Then you'll be interested in Tel-Med, a free community information service, which begins today, available by telephone 24 hours a day.

Sponsored by Allied Agencies Center and endorsed by the Peoria Medical Society, the Tel-Med taped messages are intended to help the caller maintain good health, recognize early signs of illness, and understand and adapt to illness and injury.



Geri Reynolds

A telephone call to 672-6221 gives the caller complete access to the more than 200 tapes available at the Allied Agencies Center Tel-Med library.

THE TEL-MED TAPES are composed by physicians and other health professionals and are not intended to diagnose or replace medical advice, said F. T. Smith III, administrator of Allied Agencies.

"The caller gives the Tel-Med operator the name and number of the tape, and the operator inserts the appropriate tape into the teletronix information system, semiautomatic, multichannel play-back unit.

"When the tape is completed, the caller is automatically disconnected.

"The present equipment can process five calls simultaneously."

Mailings of 86,679 Tel-Med directories began yesterday to residents throughout the greater Peoria area, he said.

"Additional directories may be obtained by contacting the Allied Agencies Center, 230 E. Armstrong, or calling the center at 673-6341."

The Tel-Med tapes are three to five minutes in length, he said.

"Tel-Med is not to be used in any emergency, to diagnose an illness or to suggest any form of treatment," Smith said.

"Each tape is reviewed at least annually to include only the most current and accurate information available.

"Each tape is carefully screened to insure its accuracy and then professionally transcribed in straightforward, easy-to-understand language."

THE TAPES ARE divided into 24 categories and cover everything from adolescents to mental health.

There are six tapes listed concerning adolescents, including "Advice for Parents of Teen-Agers" and "Acne."

Alcohol and drug abuse also has six tapes. Some of these are "Narcotics," "Marijuana," "Amphetamines and Barbiturates," and "LSD."

Under arthritis and rheumatism are tapes about gout, bursitis, arthritis and quackery.

THE BIRTH CONTROL tapes include vasectomy, tubal ligation, diaphram, foam and condom. There are seven tapes available in this category.

There are 23 tapes about cancer. These include "Cancer—Patient Services and Rehabilitation Information," "Cancer, the Curable Disease," "Cancer, Seven Warning Signals" and "Childhood Cancers."

There are 36 categories pertaining to children. These include necessary inoculations for children, "Where Did I Come From, Mama?" "Should I Keep My Child Home from School?" and what does "no" mean to the toddler.

In the dental health category, one can learn about effective toothbrushing, the seven warnings of gum disease and the importance of baby teeth.

Snacks and why breakfast is important are the subjects of two tapes to be found under the diet and nutrition category.

GALL BLADDER trouble and hemorrhoids can be found under the digestive system tapes.

There are nine tapes available under eye, ears, nose and throat problems. Some of these concern earache in children and facts and fallacies about contact lenses.

There are 18 tapes about first-aid safety. These include bee stings and what to do when you find someone unconscious.

There are 48 tapes under general health, some of which are duplicated in other categories.

A sampling of what's available in this category includes tension, understanding headaches and "I'm Just Tired, Doctor."

"Early Warning of Heart Attack," "How to Decrease Risk of Heart Attack" and "Diet and Heart Disease" are some of the tapes available under heart disease and stroke.

THE FLU AND CHRONIC cough are two tapes listed in the respiratory category.

Under the smoking category are "Gimmicks to Help You Quit Smoking" and "Weight Control While Quitting Smoking."

Menopause, the lady living alone, and breast cancer are the subjects of some of the tapes available under the women category.

The parenting category offers 10 tapes and includes "When a New Baby Creates Jealousy," "The Single-Parent Family" and "Discipline and Punishment—Where Do You Stand?"

Causes of miscarriage and warning signs in pregnancy are two tapes available under the pregnancy category.

Other categories are skin disorders, public information, mental health, men, and diabetes.

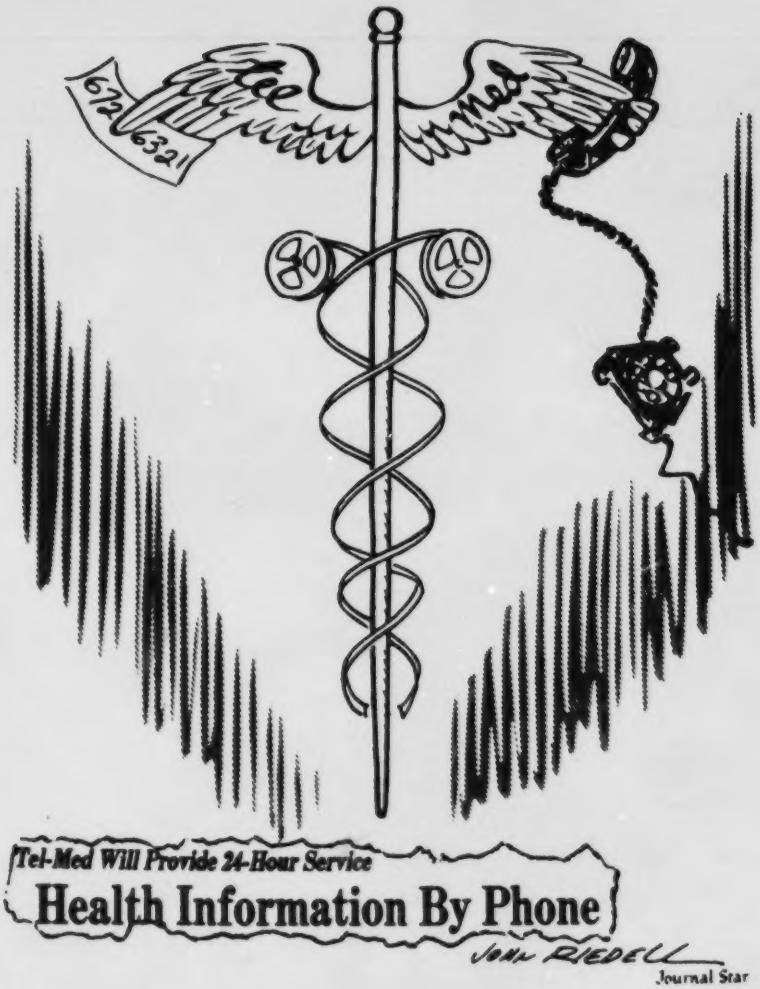
"Getting accurate health information to the public when it's needed has baffled the ingenuity of the medical-dental educational community for decades," Smith said.

"Delivering it economically has exasperated nearly everyone.

"We at Allied Agencies are appreciative of the financial support for the Tel-Med service from the First National Bank of Peoria, Caterpillar Tractor Co. and the University of Illinois Peoria School of Medicine."

JOURNAL STAR, Peoria, Tuesday, September 12, 1978 A-5

Exhibit C -- Reprinted with permission
Journal Star



Tel-Med Will Provide 24-Hour Service

Health Information By Phone

JOHN RIEDELL
Journal Star

Journal Star

A-4 PEORIA, ILLINOIS, WEDNESDAY, SEPTEMBER 13, 1978

Exhibit D -- Reprinted with permission
Journal Star

THE TEL-MED PROGRAM IN BOISE, IDAHO

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Health Education Specialist
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Boise, Idaho

Introduction

Countless questions about health, medical, and safety concerns are asked every day by untold numbers of Americans:

How do you choose a family doctor?
What can you do to reduce the risk of a heart attack?
How do you identify early signs of cancer?
What are the drug abuse resources in my community?
What are some of the warning signs of pregnancy?
Why should you use seat belts?

The answers to these and many other questions are, unfortunately, not always readily available. People are not always certain where to find the answers - there may be a lack of local resources to offer solutions, or people may feel that the effort to find appropriate responses is too bothersome and time-consuming. Other reasons may include the failure to acknowledge one's own susceptibility to a potential health problem, or to underestimate the severity of a problem once contracted.

To further complicate matters, people may actually fear learning the answers. For them, the truth might mean the damaging loss of a job, separation from friends and family, the prospect of enduring "needless" pain, or undergoing treatment and care which they are unable to afford.

Whatever the underlying reasons, many Americans still know surprisingly little about safeguarding their own health and how to deal with medical problems. An awareness of existing medical services, and how to use them, is often lacking. This state of affairs exists despite the fact that the United States spends billions of dollars annually to provide health services. Instead, the tendency is to postpone tending to health problems and concerns until they become too serious to ignore.

The continuing efforts of health personnel and educators hold promise to remedy the situation. By combining the more traditional methods of public education with newer ones, future educational programs will, hopefully, have an impact on greater numbers of people. Experimenting with new approaches may lead to programs and activities which make current, reliable health, medical, and safety information more accessible. Active involvement in health and medical matters can also be encouraged. This important consideration must be underscored. Education is undeniably an active process involving infinitely more than just the dissemination of information. It means instructing people about how to use and gain access to existing health services, and how to assume a greater amount of personal responsibility for their own well-being.

In 1972, a unique and innovative approach to public education known as Tel-Med became operational in San Bernardino, California. It was believed that an untapped means to make health, medical, and safety information available to the public already existed - the seemingly ever-accessible telephone! The concept was basically simple. Why not produce a series of cassette tapes containing sound, easy-to-understand health and medical information which could be played anonymously over the telephone upon request? These tapes would also emphasize prevention and the early detection of health problems. Furthermore, information could be provided to assist consumers in gaining access to existing health and medical services.

It was also envisioned that Tel-Med would not only benefit the general public, but the physician in his role as an educator. To save valuable time, physicians could recommend that their patients call and request specific tapes. This additional information could serve to supplement the physician's remarks, or to further clarify any confusion that the patient might have.

Work along these lines had already been conducted at the University of Wisconsin Medical Center where the concept was pioneered

in 1966. The University had initially experimented with the idea in regard to continuing education for physicians and then later (1971), with patients in hospital settings.

Acting on the idea, former physicist and research engineer, Raymond Saar, with the cooperation of the San Bernardino Medical Society, launched the first Tel-Med in April of 1972. A library of tape-recorded messages was developed containing information on various health topics of community interest. Each message was written in non-technical language to allow for easy understanding. Where it was necessary to use medical or technical terms, a conscious effort was made to carefully explain them. Before being admitted to the library for public listening, each tape was thoroughly reviewed by the Medical Society to ensure acceptability.

Ease of the program's mechanical operation was assured by its simple design. The messages were recorded on self-winding tapes to eliminate the need for rewinding after each call. Tapes also included inaudible cues at the end of play to automatically disengage them when finished. A playback console consisting of several tape decks connected to separate telephone lines was used to play the tapes over the telephone. An operator was available to receive all calls and to play the tapes. Starting with the call to Tel-Med, an interested caller would dial the Tel-Med number and anonymously request a tape. The operator would then pull the appropriate tape cartridge and insert it into one of the playback decks. When finished, the tape would automatically disconnect and be removed by the operator, ready to play again.

Initial response to the program was overwhelming. During its first 21 months, 470,000 tape requests were received. After five years, approximately 9 million calls were received nationwide from the various programs.

Since the first Tel-Med program was initiated, nearly two hundred sites have been established across the United States. It has become one of the most widespread health programs of its type - making health, medical and safety information available to the lay public. As of this writing, several others are being proposed across the nation. Much of the information needed to establish a fully operational Tel-Med program can be obtained from Tel-Med, Inc. in Colton, California, and the companies that sell the playback equipment, or by contacting other operational Tel-Med programs.

The following account is based upon the experience of implementing Tel-Med in Boise, Idaho, and its first 34 months in operation. It is hoped that this description and the accompanying suggestions will assist Boise's staff and others with program operation and future development.

A Brief History of Tel-Med in Boise

The idea that the telephone could help fill the health information gap was both innovative and timely. It captured the imagination and offered a fresh approach to a pervasive problem.

The first Tel-Med program had already been operational for little over a year when the idea found its way to Boise. During August of 1973, the staff of Treasure Valley Comprehensive Health Planning, Inc. (TVCHP) read about Tel-Med. They felt that such a program showed potential and should be explored. Various surveys in the Treasure Valley had already indicated that people wanted reliable health information. Moreover, they had expressed a need to know more about available health services. Perhaps Tel-Med might be able to make some inroads.

TVCHP presented the idea to Health Systems, Inc. (HSI) of Boise - a private, non-profit corporation created for the purpose of researching better ways to obtain quality health care at a reasonable cost. Because the successful development of the Tel-Med project in Boise would require a high degree of both public exposure and organizational continuity, HSI suggested that the project be implemented through the Central District Health Department. It was further determined that the Central District had the space, staff, administrative resources and community image necessary to develop and house a successful program. In addition, the District's staff was enthusiastic about the program. Although the District could commit operating support to the program, budget limitations required outside support for the project's "start-up" costs.

Central District's Board of Health approved of the idea and HSI awarded $3,650 to Central District to support such initial costs and to enable implementation of the program.

Next, it was necessary to obtain the endorsement of the Ada County Medical Society (ACMS). The Tel-Med contract specified that this was a pre-requisite to implementation. An opportunity to speak to members of ACMS was arranged. At two separate monthly meetings, an overview of the program was presented and questions entertained. In the end, an overwhelming majority of the membership voted to support the new service.

A year later, Tel-Med became fully opera-

tional (November, 1975). From conception to inception, it had taken over two years to implement the program.

As of this writing, the geographic area being covered is restricted to Ada County. In time, it is hoped that it will be expanded to include the three other counties within Central District's jurisdiction.

Program Requirements

As with any new program, it was necessary to ask some basic questions. A few of the more crucial ones were: How does the system function? What materials and resources are required to establish a fully operational program? How have other programs been able to promote public use of the service? What will it cost to implement and maintain the program?

Specific information was required from Tel-Med, Inc. in regard to various program concerns:

a. Cost of the playback equipment
b. Recommended number of tape decks and incoming telephone lines
c. Cost of the tape cartridges
d. Hours and days of operation
e. Type of promotional activities
f. Amount of space needed
g. Cost of equipment and tape maintenance
h. How the system is operated, etc.

Other cost considerations included staffing, supplies, operating space, and telephone installation. Local inquiry uncovered most of this information.

Tel-Med, Inc. responded with encouragement and some important promotional materials. One item in particular - a summary entitled, "Program Requirements," proved to be especially valuable. It discussed program equipment, space requirements, telephone and operator cost, and cost of the tape library.

Program Equipment

From the beginning, Tel-Med, Inc. made it clear that they were in no way "involved in the sale, leasing, or financing of any tape playback equipment." They were quite willing, however, to recommend companies who sold the equipment and offered some useful suggestions for when the decision was finally made to purchase the playback system.

For a population the size of Ada County (100,000+), it was suggested that five incoming channels and one back-up phone be considered. According to Tel-Med, Inc., "the back-up phone would allow the operator to answer another incoming call in the event the other channels were playing tapes." The company from whom the equipment was eventually purchased took a different posture. They believed the use of the back-up phone was not merited and that the money could instead be used to purchase another tape deck and line. The staff initially opted for Tel-Med's position to relieve caller frustration.

(After almost three years of operation, this back-up phone was replaced by a third deck to accommodate the increased volume of incoming calls. Hereafter, no back-up line will be used. It was indeed discovered that another deck would prove more valuable - especially during peak hours of increased call volume.)

In answer to the question concerning the actual cost of the equipment, the response was that this would vary depending upon the equipment that was decided upon. At the time, it was estimated that suitable equipment could be purchased for as little as $600 per channel, or for as much as $1,500. The extent of automation, operator comfort, and additional features would dictate the final cost. Most likely this price range has risen since the original estimate was made.

There were a number of requirements which the staff expected a system to satisfy. Program constraints and requisite materials that had been read, and the chance to observe Seattle's program first-hand had provided the staff with a fair indication of what was needed - the playback equipment had to be simple to operate, dependable, and easy to maintain. The staff intended to rely on volunteer help for program operation and for this reason simplicity of design and use was a necessity. Preferably, there would be a built-in mechanism to count the total number of incoming calls. For after-hours calls, there would be some kind of automatic answering device to inform callers about the hours of operation. The tape decks would have to not only play each tape, but to stop upon completion, disconnect the telephone line, and signal the operator that the cartridge was ready to rewind, or to replay (if self-winding cassettes were used). Without these features, the operator would have to listen to each individual tape and perform the above functions manually. This would become exceedingly difficult when more than one tape was being played. (An additional feature that is now available is an automatic power cut-off that disengages the equipment when it is plugged in, but not in use. This is preferable to the older systems which are always plugged in and continually consume power even when not playing tapes.)

For obvious reasons, the staff desired a system that would be relatively trouble-free to keep costs down and to ensure reasonable uninterrupted service. There had to be the assurance that in the event of malfunction, a local electronics service could handle the adjustments and repairs. Before becoming committed to the purchase of any system, an acceptable warranty would have to accompany the transaction.

Due to limited space, the system would have to fit into a small 6' x 6' area. Anything larger would have been almost impossible to accommodate.

The tape cartridges were another key consideration. They had to be capable of withstanding extensive use - resistent to frequent breakage or malfunction, and capable of minimizing any extraneous audio distortion. Without such durability, it would be predicted that there would be extra expense to replace frequently worn tapes and that there would be needless listener frustration caused by impaired recordings. If possible, it was desired that continuous-loop tapes could be used that would rewind themselves. This useful feature would not only do much to save time ordinarily required to rewind tapes, but would also minimize the length of time that people must wait before they could listen to a specific tape again.

Since a collection of tape cartridges was to be maintained, a means to store them was needed. Again, the consideration of limited space was paramount. The storage system had to be compact, yet possess the capacity to accept additional tapes as the Tel-Med library expanded. Immediate accessibility to tapes was necessary to respond quickly to incoming calls.

In retrospect, efforts to purchase the equipment were more time-consuming than anticipated. It would have been a simple matter to have accepted Tel-Med's advice and to purchase the playback system from one of the companies they had recommended. At the same time, the over-riding concern was weighing the cost-benefit of the program's expenditures. The staff not only wanted to be certain that the various requirements and recommendations had been satisfied, but that the purchase was the most for the money. This entailed exploring alternative possibilities and doing some comparative shopping. At best, progress along these lines was slow and less than fruitful. Many of the alternatives fell short in many respects even though they were relatively inexpensive. In some instances, storage of tapes and ease of operation were satisfied, but durability was wanting. Other systems showed potential, but would have been too expensive to adapt to the program. The staff eventually concluded that it would be best to deal with one of the companies they were initially referred to.

Early in the fact-finding efforts, there had been correspondence with Teletronix, a subsidiary of United Recording Electronics Industries in Southern California. With a few exceptions, the majority of the Tel-Med programs across the country were using their equipment in Seattle and San Bernardino. In these operations, the reported experience had been encouraging. Maintenance problems and costs had proved minimal, ease of operation was mentioned, neither system required much space, and other aspects appeared favorable. Additional sources of information served to further confirm the desirabiltiy of dealing with them.

Contact was re-established and the staff began to examine the various switchboard systems that would meet program needs. The model eventually decided upon was compact, played continuous-loop tapes that shut off automatically when finished, had an automatic answering control to advise callers about the hours of operation, and had the capacity to accommodate five tape decks. Due to cost considerations, only two decks were purchased. With the availability of funds and the increased volume of calls, an additional tape deck has since been added.

A carrousel tape storage rack with a 200-tape capacity was also obtained. It was believed that this would be adequate to allow for future expansion.

Space Requirements

An area of 5' x 6' was considered adequate by Tel-Med to handle a two-channel system. They believed that this amount of space would be enough for the playback unit plus a 200-tape storage rack to fit comfortably on top of a 2 1/2' x 5' standard desk top.

Telephone and Operator Cost

The staff learned that telephone costs would vary in different locations and for this reason, Tel-Med felt it would be difficult to estimate actual service installation and monthly service charges. They recommended that Boise's local telephone company representative be contacted for this information. It was further suggested that arrangements be made for a telephone company representative to contact the equipment producer to discuss

the technicalities of installation (which couplers to use, proper connections, etc.). Later on, Teletronix made a form letter available with sufficient information to allow the telephone representatives to act more knowledgeably on behalf of the program.

It was suggested that only 3/4's of an individual's time would be needed to operate the system. Since the services of volunteers were to be used, any cost to be incurred would be for an occasional party or award ceremonies to give recognition to the volunteers.

Tape Library Costs

Durable, continuous-loop, broadcast tape cartridges are used in the Tel-Med library. Unlike the four-track and eight-track tape cartridges purchased in stores, they are considerably larger, self-winding, and provide greater longevity. There was assurance that even with extensive usage, they would maintain their audio quality up to five or six years.

Tapes from the standard Tel-Med Library are available for a basic fee of $20.00 per tape. This price assumes that the only alteration in the standard tape will be the acknowledgement of the sponsoring agencies to be included at the end of the tape (not to exceed 35 words and to be applied to all tapes.) Making all tape "trailers" identical, allows for faster service. If sponsors vary, the "trailers" must be tailored to the individual tapes and this is time-consuming. Uniformity is not always possible because different organizations and agencies contribute to the library, and they rightly expect to be acknowledged as the sponsor of particular tapes.

Beyond the basic charge ($20.00) for a standard tape, costs can vary. A tape prepared from a script originated by the licensee, or a tape requiring total renarration is priced at $40.00. Tapes selected by the licensee from the Master Library which require the removal of any material from the body of the tape, or require the addition of local referral information at the end of the tape (in addition to a standard trailer) will cost $28.00. After-hours tapes are $22.00. Duplicate and replacement tapes all carry a minimal charge of $10.50.

Despite the added expense, it is well worth considering the inclusion of local referral information at the end of each tape. This added feature provides a valuable service to callers who may be interested in acting upon the information they have already received. If, for example, they seek further help or information in regard to local drug abuse resources, the tape offers them reliable referral points in their area. The only drawback to including referral information, besides the increased cost, is the periodic need for updating. Addresses and telephone numbers change, new agencies are formed, and others discontinue their services. Such changes do entail a cost since tapes must be renarrated.

A current fee schedule is available from Tel-Med. The prices just quoted are all subject to change and would be reflected in an updated schedule. The Licensing Agreement requires that 90 days prior notice be given before any changes in the schedule can go into effect.

A monthly support fee is charged to programs under contract with Tel-Med, Inc. The $30.00 per month is designed to provide for:

a. Staffing to monitor the tapes in the Master Library and to allow for an annual medical review.
b. Staffing to engage in the development of new materials, utilizing source material developed by other agencies, as well as to enhance the efforts of the members of the San Bernardino County Medical Society.
c. Partially defraying the cost of communication with operating agencies, i.e., notifying programs about new materials and ideas developed by Tel-Med, Inc. and other agencies.
d. Monthly newsletter entitled, Tel-Med, Inc. Newsletter, sent to all licensees.

The staff was informed to expect future increases in this fee as the number of Tel-Med programs continues to increase. This will be necessary in order to maintain their current level of service and to preclude seeking outside funding assistance.

Liability Insurance

Liability insurance for the Tel-Med program can be purchased if desired. Since Boise's program was already covered by the Central District Health Department's own policy, no additional insurance was obtained.

Program Funding

Initial funding for Boise's program was adequate for the first year of operation. Monies from Health Systems, Inc. and the Central District Health Department made it possible to live within the established budget. It was possible to purchase the playback equipment

and selected tapes, afford the cost of installation and maintenance, buy needed supplies, rent telephone lines, and promote the program. (See Appendix A for proposed first-year budget.)

This state of bliss was temporary - HSI's funding was expended quite early and it became necessary for Central District to commit itself to a nominal annual operating budget. Early in the planning stages, it was foreseen what might happen and so the staff set a course for increased financial self-sufficiency. Where possible, financial assistance from local funding sources has been solicited. Other health, medical, and safety agencies have been approached to help co-sponsor the program, or at least to sponsor some tapes for the library (United Way, Idaho Lung Association, Mental Health Association, Idaho Cancer Coordinating Committee, Boise Safety Council, et. al.). Fee and inexpensive means of promotion have been used whenever available. Tentatively, it is estimated that program operation should cost approximately $7,500 per year.

Medical Society Approval

Part III of Tel-Med's licensing agreement specifies that the exclusive right to the use of their program is subject to the continuing approval of the local Medical Society.* Without their expressed endorsement, the implementation of the program can either be blocked, or further operation halted. Consequently, securing the Medical Society's support is most crucial. Even with sufficient funding, there can be no program unless this requirement is first satisfied.

An opportunity to speak with the Ada County Medical Society was scheduled on two separate occasions. At the first meeting, a brief description of Tel-Med was presented to the members in attendance. Their response appeared favorable, but no immediate action could be taken until the following month when the entire membership would be available to vote. The second meeting was well attended, and the new incoming president had already expressed his interest in the proposed program. Again, an overview was presented and the assessed need for the program was discussed.

One concern was that Tel-Med might possibly be used by the public in lieu of professional medical expertise. Replying to this, the members were informed how the program was being used elsewhere. In every instance where the program was operational, it was viewed as a mechanism to assist the physician in his role as a health educator. The time needed to sit down and answer patients' questions, or to educate them about health matters is often in short supply. With Tel-Med, physicians could suggest that their patients call and request a specific tape to supplement or clarify their professional judgment and advice. Patients could also be asked to call the program in advance of an appointment or procedure to inform them about what to expect and what to ask about. Furthermore, the availability of the service would hopefully benefit physicians by reducing the number of information calls they receive. At the same time, it was emphasized that self-diagnosis and self-treatment are definitely discouraged. All brochures, posters, and other promotions clearly define what the service is, as well as what it is not. Every attempt is made to inform the caller that Tel-Med is designed to help people remain healthy by giving them preventive health information, help people recognize early signs of illness, and help people adjust to a serious illness.

On the other hand, they were also told that the Tel-Med tapes are not to be used in an emergency, to find out what illness they might have, or to replace their family doctor.

Should there be a need for a physician, each tape advises the caller to contact his or her family physician. If they do not have a family physician, the telephone number of the Ada County Medical Society is given to aid them in finding a physician. Rather than attempting to supplant the physician, every effort is made to keep him in the forefront. Instead of causing any decline in patient patronage, it would be imagined that the program would encourage greater, yet more appropriate, utilization of the physician's services.

After other questions were addressed, the proposal was put to a vote and passed by an overwhelming majority!

Soon afterwards, a meeting was arranged to meet with the president of the Medical Society to discuss such matters as the formation of a tapes review committee, determining the referrals to be used, periodic reports to the membership, program promotion, and the License Agreement. The Medical Society offered us the services of their attorney to examine the conditions of the Agreement.

Tel-Med, Inc. License Agreement

Two copies of the Licensing Agreement were sent to Central District when commitment to the program was confirmed. Surprisingly enough, for a legal document, the text was fairly easy to understand. It was not worded in the char-

* No longer a requisite under present Tel-Med licensing agreements.

acteristic legal jargon of most contracts, and did not require an attorney to decipher it.

The major provisions of the Agreement pertained to the following matters: property rights, the rights of operation granted by the license, the covenants and obligations of Tel-Med and the Licensee, the fees, term and termination of the Agreement, and independent contractors. A current version may be obtained from Tel-Med, Inc.

Tape Transcripts

Tel-Med had a current listing of tapes and scripts available upon receipt of the letter of intent from Central District Health Department and the letter of endorsement from the Ada County Medical Society.

By contract, "All scripts and tapes accepted by Tel-Med, Inc. into its program for use by it or its Licensees shall be considered a part of its program (1.1)."

Contract terms relating to the scripts appeared somewhat restrictive at first blush. Yet, they are not without latitude. To meet local needs, it is possible to adapt to the scripts from the Tel-Med, Inc. Master Library, or to write new ones. You are not prohibited in any way from manufacturing tapes locally if you can make the arrangements. It is entirely possible to terminate the contract with Tel-Med and become a separate program producing its own library. First of all, it would be necessary to discontinue all reference to Tel-Med, Inc.

Provision is made for updating (although any changes for updating by Tel-Med, Inc. or by the Licensee will incur a charge, and all recording must be performed by Tel-Med, Inc. of any scripts from their own library). There is, of course, unlimited access to all scripts in the Tel-Med Master Library.

When the scripts were finally delivered, it was discovered that the entire library had been made available for review. This made the selection of tapes much easier and made it unnecessary to write for individual scripts each time they were needed. Copies of the scripts could be typed or photocopied and given to people interested in adding future tapes.

Scripts Review Committee

Determining the acceptability of each library tape, as already mentioned, is the responsibility of the Medical Society. That is, any new tapes considered for future use must first become subject to professional review. This does not mean that only physicians will approve tapes. Rather, it means that the Medical Society will decide who should perform the actual reviews. Tapes will be screened by other health professionals when appropriate. For instance, a tape concerning measles might best be reviewed by a pediatrician, whereas, a tape on cockroaches might best be reviewed by a public health sanitarian. (After-hours tapes played by the automatic answering device only give callers the hours of operation and therefore, did not require approval.)

Initially, this condition of the contract was viewed with a degree of skepticism. There was some apprehension that certain unreasonable constraints might be dictated. So far, this has not happened, nor is it anticipated. There are some definite benefits to this arrangement. The overall acceptability of the tape library (accuracy, currency, approach, etc.) can be assured. Without professional review, the credibility of the program would certainly suffer. Professionals in medical, health, and safety disciplines are more likely to express greater confidence in the service if their expertise is solicited and subsequently incorporated.

In the long run, this confidence may translate into increased program utilization due to professional referrals. Having the Medical Society seek out professionals to review tapes further benefits the program by freeing time which might ordinarily be spent by program staff. Physician contacts with other health professionals is extensive and they seem quite capable of eliciting good cooperation. Also, by involving other people outside the program, there is a potential source of new ideas for other tapes which might be added to the library at a later date.

The formation of the review committee was aided by the president of the Medical Society. He took an interest in Tel-Med from the very beginning and assumed direct responsibility for organizing the group. Beforehand, an appointment had been scheduled with him to discuss the recommended structure and function of such a committee.

The basic terms of the Licensing Agreement were highlighted and the suggestions made by the programs in Seattle and San Bernardino were explained. Both programs had advised the staff to keep the committee small enough so that it would be easy to manage (preferably no more than 5 to 10 individuals) These people would either review the scripts themselves or would find other health professionals who were willing and able to do so. The Medical Society opted for an alternative approach - when scripts were sent to them for review, the presi-

dent or the secretary distributed them to whomever they felt was the most qualified. This continues to be the current practice and so far no real problems have occurred.

The review procedure was outline briefly although it was necessary to emphasize a few key points. The following guidelines provided by Tel-Med, Inc. were presented:

a. In distributing scripts for review, it's important for the reviewer to remember that the material is designed and produced to be listened to, rather than read.
b. All editorializing efforts, grammatical changes, etc. which require modification or re-narration of a tape will, of course, cost additional money.
c. It is important to remember who your listening audience is and attempt to keep your material easy to understand. Children, as well as adults, will be using the service. The majority of the callers will be non-professionals.
d. Where possible, select a trailer that you want to end all tapes. This trailer should be short and to the point, i.e., " . . . this message has been brought to you as a public service, courtesy of your Central District Health Department in cooperation with the Ada County Medical Society."
e. Where possible, try to limit the referral information, particularly telephone numbers and addresses. Such information changes frequently, outdating the tapes. The cost to update and re-narrate is a consideration.
f. If incorrect material is found in a script, the discrepancy should be brought to the attention of Tel-Med, Inc. There will be only a nominal $15.00 fee for re-taping rather than the $40.00 charge. These errors, however, must be incorrect facts rather than opinions.

Review forms were included with the shipment of scripts. For the most part, they were self-explanatory and presented no real problems. Each time a script was sent out for review, one of these forms was attached.

Selecting the Tapes to be Included in the Library

Approximately 280 tapes were available from the Tel-Med Master Library to choose from. Many of them attracted the staff's interest and were potential candidates for the fledgling tape library. Unfortunately, finances permitted the purchase of only forty tapes. It was necessary to be extrememly selective in the final choices.

Every attempt was made to satisfy local needs and yet offer a reasonably comprehensive range of health topics. Suggestions were solicited from both the staff of the Central District Health Department and the Ada County Medical Society, as well as from other agencies (Idaho Lung Association, Mental Health Association, Safety Council, and others). To help with the selection, copies of the complete list of tapes were provided to all involved. A record of the most popular tapes played by other programs in the nation was requested from Tel-Med. This document was received and served as a basis for the eventual selection.

Expansion of the library has been undertaken with greater in-put from the general community. Boise's library now contains approximately 120 tapes. Recommendations from other health professionals, other groups and organizations, and the callers themselves have been encouraged and honored. Numerous community organizations have expressed an interest in sponsoring new tapes. Most gratifying is that the majority of the tapes now included in the tape library are the result of sponsorship and purchase by other agencies and organizations.

Writing and Re-Writing Scripts

After the Transcripts Review Committee makes its evaluation, the scripts are returned. If they have been approved, the appropriate trailers and referrals are added. Individual copies of the scripts, and the review sheets signed by the physicians are photocopied and mailed to Tel-Med, Inc. for narration. Maintaining a copy of each review sheet and script is important for later reference; otherwise, once sent, they are seldom returned.

Should scripts be returned indicating only minor revisions, a final draft is typed incorporating the changes. (It might be necessary to confer once more with the reviewing physician to ensure acceptability of wording and content.) Again, the appropriate trailers and referrals are included, and copies of the script and review sheet are forwarded to Tel-Med, Inc. for final narration.

In the event scripts are judged unacceptable, it has been possible to exercise one of two options. Either the script is considered beyond all hope and is rejected in its entirety, or an attempt is made to salvage it. Sal-

vaing may mean revamping a major portion of the contents, or writing a whole new script.

When confronted with rejections, every attempt is made to reclaim them. Fortunately, our efforts have been successful in a majority of the cases. The scripts that could not be rescued were ones judged too general in approach and therefore considered impracticable. According to the reviewers of these individual scripts, it would have been advisable to take specific topics from their texts and write separate scripts.

New scripts have been originated as certain topics were not available in the Tel-Med Master Library. As needs are identified in the future, others will be authored. Rewriting scripts, or writing new ones from scratch, requires a great deal of close cooperation with the review committee. The reviewers possess the expertise to determine whether the facts and concepts being communicated are correct or not. They are better able to explain certain important aspects which need to be easily understood. Sometimes it may be necessary to confer with other physicians or health professionals before writing a final version. Depending upon how many opinions you seek, this attempt at creating a viable script can be somewhat frustrating. Not all health professionals necessarily agree with one another. There may be some decisively divergent points of view. One professional may emphasize certain things which are discounted by another. When producing a script, it is necessary to emphasize the important points with the public in mind (see guidelines under Transcripts Review Committee). Unintentionally, some reviewers and consultants may address themselves to other knowledgeable professionals and not to the uninitiated public.

Newly completed scripts are all subject to the same review process as previously described. One consolation is that they appear to receive faster approval then some of the others that require little or no change. Part of this may be due to the fact that reviewers are consulted all along the way and they are already familiar with what has been written.

Once approved, the appropriate trailers and referrals are added. Copies of the script and the signed review sheet are run off for reference, and the originals are mailed to Tel-Med, Inc. for narration. (See Appendix B for a flow chart of the tape making process.)

Determining Trailers and Referral Information

The tapes in the library are intended to provide callers with more than just reliable, factual content. By design, each tape also dispenses local information which may prove useful.

"Trailers" are added at the close of the tapes primarily to acknowledge sponsors and contributors. Yet, trailers may act as referral information since callers may associate future assistance with the sponsor. Some callers have mentioned that they have heard the trailer, but not the referrals when they called back wanting more information about the particular sponsoring agency or group. This is, despite the fact that the referral information which followed may have offered them more help. As mentioned before, it is recommended that trailers be short and to the point and when possible, be uniform to reduce the cost of narration.

"Referral information" may be incorporated into the body of the text, or after the trailer. The inclusion of telephone numbers and addresses extends the function of the system beyond that of mere dissemination of information. Without this dimension, Tel-Med would be neglecting a very real problem - the inadequate utilization of existing services. With this information, callers can be aided in seeking further assistance if needed.

It was expected that Tel-Med would be more than just a system providing reliable information. It would also make certain inroads to the utilization of existing health services. The Ada County Medical Society had voiced this same expectation. For this reason, referral information is used where indicated. Ultimately, this has meant more time and money expended on updating, but is an important facet of the program. It is only fair to mention that a large number of our tapes have contained certain referral addresses and telephone numbers - requiring change and subsequent renarration. Whenever possible, only the names of referrals are now mentioned, and not their addresses or telephone numbers. Hopefully, the caller can find the information in the telephone directory or through the local Information & Referral Service.

Card Index

The idea to develop a card index originated with the person who installed the playback equipment. He mentioned that operators in other programs used an index to quickly locate information included on the tapes. With such a system, it was not necessary to replay an entire tape for a caller who only wanted referral information.

The practicality of the suggestion was

immediately apparent. Unfortunately, no actual description was readily available to serve as a working model by which to pattern an index, so the decision was made to design one. An inexpensive flip card file similar to Rolodex was purchased. A minimum of two cards was typed for each tape, one alphabetically for the title and another for the particular subject heading under which it fell.

Each card contains the referral information mentioned on the tape, and also a list of alternative referrals. This alternative information is important since all appropriate services and programs cannot be included on each tape. Should a person return a call wanting other possible sources of help, or if someone calls seeking information only, the operator can easily comply with the request.

In actuality, Tel-Med has already become somewhat of a local referral center. People continue to call for names of various agencies, their addresses, and telephone numbers.

Because of the referral function the program was performing, an arrangement was made with the local Information & Referral Service. This is an established service that locates and offers referral information about all local educational, social, and health services. An identical set of index cards has been provided I&RS, Inc. Each time a new card is added to our Tel-Med file, a copy is made for their records as well.

The logic behind the arrangement is three-fold. First, I&RS is in an ideal position to help our staff update referral information (addresses and phone numbers change, services and agencies come and go). Secondly, I&RS is used as a tape referral. Thirdly, our staff will not encourage people to use the program too extensively as an information and referral service. To do so places Tel-Med in the position of duplicating an existing service. Instead, it is preferred to complement I&RS, and to promote their utilization whenever possible.

Forms for Recording Incoming Calls

To gauge public response, a recording form for the operators to daily tabulate all incoming requests was needed. The form required would have to accommodate the following:

a. A brief explanation on how to use the form
b. Space for the day's date
c. The total number of tapes requested each day
d. The total number of tape requests during each operating hour
e. The total number of the individual tapes that were requested
f. A notation whether the caller was a man, woman, or child and totals
g. The total number of after-hours calls
h. The total number of information requests

Weekly and monthly cumulative talley sheets were required to complement this daily form.

The tabulation sheets have begun to offer a means of program appraisal. It is believed that an emerging picture of program utilization can benefit future planning. Topics consistently requested, as well as the tabulation of the most and least requested tapes, can indicate areas of interest for future expansion. Knowledge of peak periods can mean planning for additional telephone lines and adjustment of the hours and days of operation. Similarly, a profile of the sex and age group is helpful to determine types of tapes to be purchased. The nature of information calls indicates the type of information the program operator needs on hand. (See Appendix C for tabulated data.)

Program Operation

The initial decision to use volunteer operators was not altogether an original idea. Tel-Med, Inc. mentioned it was being tried at Irvine, using student volunteers. It was learned that should the staff opt to follow UCI's footsteps, Boise would probably be the first community-based program to do so. Nevertheless, their advice was to staff Tel-Med with paid personnel. Their reasoning was that the person would only need to be trained once, they would assure a degree of continuous coverage, their ability to make referrals would be better, and their overall familiarity with the program would greatly assist in its performance.

The logic of their recommendation might have carried the day if it were not for two basic considerations. First of all, the Central District Health Department had already hired a Volunteer Coordinator. This person is responsible for recruiting, training, and scheduling volunteers to assist with numerous clinics and departmental jobs in addition to Tel-Med. Past experience of large agencies such as Central District agree that this position is time-consuming and that a staff member charged with the responsibility (part-time) could not do justice to the job.

Secondly, the budget was limited and utilizing volunteer operators would help keep expenses to a minimum. The volunteers were used for the first nine months of operation, but various problems (mentioned later on) arose and necessitated using a paid operator to cover the console. Very little cost was involved in this change-over since it was moved conveniently near the Department's PBK operator.

Teaching volunteers to operate the equipment did not pose any real difficulties. Some took longer to learn than others, and those who did not work for a while needed a refresher; but the instruction required only about ten minutes. The format followed for training covered the following key points:

a. What is Tel-Med? Briefly explain the concept to the volunteer and give him/her a program brochure.
b. Acquaint the person with the equipment and demonstrate how the system works.
c. Have the volunteer insert a tape a few times to learn to do it properly.
d. Explain how to fill in the recording forms.
e. Explain the purpose of the card index and how it is used. Draw attention to frequently requested information.
f. Explain how to handle "crank calls." (Ignore and hang up.)
g. In case of mechanical malfunction, tell them how to reach the Program Coordinator or the Volunteer Coordinator.
h. Show them the locations of the restroom, snack room, and coffee room.
i. Explain any other duties they may have that day.

Someone checked with the volunteer periodically in the event he/she had a question or needed assistance. For their convenience, a list of frequently requested telephone numbers was made available, and the following operating procedure was posted close to the equipment:

1. When you hear the tone, push the blinking button and answer the telephone.
2. Greet the caller with "This is Tel-Med" and listen for the number or title of the tape he/she wishes to hear. It is desirable that they already know the tape number. If not, locate the tape by its title. You might ask them if they would like a pamphlet listing the available tapes, if they do, take the name and address and give to the program coordinator or volunteer coordinator.
3. The tape cartridge should be inserted with a gentle but firm push in the slot. Do not force or jam the cartridge in as it may damage the tape or the tape deck. If the cartridge is seated properly, it will begin to play. The green play lamp will light and the message can be heard in the receiver.
4. The operator may stop the tape early by pressing the green play button. If for some reason, the wrong tape is started, use this button to stop it. Remember to allow the tape to finish playing in another unused deck so it will be ready for the next play. Do not use the round eject button to stop the tape.
5. While the tape is playing, please fill in the information on the "daily calls" sheet. If a tape is requested that we do not have, please list it on the back of this same sheet.
6. When the tape is finished, it will automatically turn itself off. Press the round metal button under the tape to remove it and place it back in the holder.
7. If anyone calls requesting further information, you may play the tape again or give them information from the card index.
8. In the event of equipment malfunction, please see the Volunteer Coordinator or the Program Coordinator.

Cards listing call numbers and titles of new tapes not yet included in the Tel-Med brochure were posted near the equipment. The operators were encouraged to suggest the new tapes if the caller requested related subject matter.

Certain duties such as cleaning the equipment, activation of the after-hours tapes, and tabulating the weekly and monthly statistics could be delegated to the operators, but the staff preferred to assume these duties because of convenience. Compiling the data from the daily record sheets is a mechanical process, but one which affords the staff intimate knowledge of response to the program. By doing this, they discovered discrepancies and noted patterns of particular significance.

While awaiting calls, volunteers helped to staple newsletters, stuff envelops, cut bandages and slings, etc. Because this work was sporadic, they had time to read, write letters, work on personal projects, or listen to any tapes that interested them.

Before electing to use volunteer services, it is recommended that the advantages and disadvantages be carefully weighted. Advantages

that are the most appealing are: (1) less operating expense, (2) a source of public relations for the program and sponsoring agencies (volunteers frequently distribute brochures to friends, family, and others - promoting use of agency services), (3) their enthusiasm and assistance is a welcome asset to any agency, and (4) being outside the program, they can add new perspectives to improve operation.

The disadvantages, on the other hand, may outweigh the benefits: (1) Maintaining a volunteer staff is a full-time job requiring a full-time coordinator. (2) Continuous volunteer coverage cannot always be guaranteed - lack of continuous coverage eventually made the use of volunteers exceedingly difficult and impractical - since paid staff was then required to cover. (3) Transportation must be provided at times if they are to come to the agency. (4) There is not always sufficient work besides Tel-Med to keep a volunteer busy. (5) Since volunteers give freely of their services, performance cannot be demanded. (Other Tel-Med programs appear to successfully use volunteers, and can perhaps provide additional information.)

Program Promotion

A comprehensive publicity campaign was launched a week prior to the starting date of the program. Pamphlets flooded the area, radio and television carried the word, local newspapers printed feature articles, and announcements were sent to the various health agencies and civic groups. The ensuing response was gloriously overwhelming! The staff patted themselves on the back and basked in the apparent glory of their triumph - for almost an entire month. Then, without warning, the steady flow of calls suddenly declined. They found themselves at a loss to completely explain the steep (44 percent) drop. If any plausible explanation were entertained, it was that December was the holiday season. After all, many other services in the Department experienced similar declines during the month. It was believed that the volume of requests would again climb the following month to approach November's level. They did climb, but not nearly as high.

A less intensive second publicity campaign was waged. More brochures were distributed, the staff spoke to several groups, newsletters of other agencies described Tel-Med and encouraged their readers to call. The volume of calls again increased. Two weeks later they dropped again to the previous low levels. Sometime after this, a newspaper advertisement was run which favorably boosted the number of calls.

Boise's program, other Tel-Med programs, and similar programs like New York's Can-Dial program have discovered again and again that promotion is a critical activity. Can-Dial has shown that response to their program is closely related to their publicity efforts (a finding that would appear to verify personal experience). More calls inevitably drive down the cost per call, thereby raising program cost-effectiveness.

The following array of approaches to publicity have been used:

a. A few thousand brochures were printed and widely distributed. (Each brochure listed available tapes, described the program and how to use it, gave the hours of operation, and acknowledged the sponsors. Some places that they were made available were: physicians' offices, voluntary health agencies, health programs, Chamber of Commerce, public schools, institutions of higher learning, health department clinics, welfare offices, newsletter mailings of service groups, dentists' offices, handouts to groups when giving talks, recreational programs, hospitals, our newsletter, city and county government offices, libraries, church groups, laundermats, pharmacies, etc.

The Tel-Med brochure is updated each year to include new tapes. To make them easily distinguishable from the year before, the design and color scheme is changed. The brochure is useful when planning other promotional items such as news releases, posters, etc. Sample brochures were obtained from other Tel-Med programs to help with the initial design.

Brochures have proven to be the mainstay of Boise's promotional efforts. Other Tel-Med programs (and programs like Can-Dial in New York) have reported similar experience. Without the brochures, prospective callers have little idea about the program or what to ask for.

b. Public service announcements and interviews on radio and television
c. Newspaper features and paid advertising
d. Cross-referencing in the telephone directory white and yellow pages
e. Posters
f. Central District Health Department slide presentation which covers the services that are provided
g. Talks to schools and community groups (speakers' bureau)

h. The use of counter display boxes for brochures to ensure greater visability (rather than pamphlets down flat)
i. Continuous public service announcements on television accompanied by a slide (next to the distribution of brochures, this has paid the most dividends)

Future publicity efforts might include:

a. Soliciting financial assistance from community agencies and organizations, as well as businesses to defray the cost of advertising
b. Periodic follow-up articles in local newspapers and coverage by television and radio stations as well as arranged press conferences
c. Explore the feasibility of having the local newspapers run a public service column listing important service numbers of which Tel-Med would be one
d. Promoting the program at local conferences, workshops, seminars, etc. (using displays and exhibits)
e. Inclusion of Tel-Med's number and description in local information and referral directories and handbooks
f. Stronger efforts to encourage hospitals, physicians, and other health professionals to refer their patients to the service
g. Encourage more agencies and organizations to assume co-sponsorship and in turn, to assist with promotional efforts
h. Bumper stickers and telephone stickers
i. Billboards and advertising in buses and taxies
j. Public stunts
k. Mailing brochures in welfare warrants and employee checks (Can-Dial puts brochures in shopping bags)

When promoting Tel-Med, it was found that different media place constraints upon the extent of information to be included. Radio announcements and television spots should be no longer than 15 to 30 seconds, the greater the space used for a newspaper advertisement or in the yellow pages - the greater the cost. Posters must be brief and appealing. Considering the various limitations, there is specific information always presented:

a. A brief description (statement to the effect that we are offering free health and medical information over the telephone
b. Telephone number
c. Hours of operation

Next in importance:

a. A more detailed description of how people can use Tel-Med
b. What Tel-Med is designed to do and not do
c. Acknowledge sponsors
d. The listing of all tapes and numbers

Budgeting for program publicity at first was largely a hit-and-miss affair. The staff anticipated minimal promotional efforts and greater assistance from community groups and organizations to keep publicity cost down. Consequently, promotion was under-budgeted during the first nine months and it became necessary to draw from other budget items. Most likely, three to four times the original amount should have been requested. Currently, about $1,800 per year is reasonably adequate.

In addition to good publicity, other factors having significant impact affecting public response are:

a. The size of the local population and extent of geographical area covered.
b. The size of the library - a greater range of topics would undoubtedly increase interest. Boise's program started with 40 tapes, 100 might have been better.
c. The number of incoming lines - more lines means a greater capacity to accommodate callers. If the service is under-utilized, this would not make much difference, but when the volume begins to soar, the inability to get through could cause disinterest in the program.
d. The nature of the topics included in the library. Some topics are perhaps more "provocative" than others and arouse curiosity, generating a larger audience. For instance, various tapes on drugs, birth control, sexual problems, and certain emotional problems have been extremely popular in Spokane, San Francisco, Portland, and elsewhere.
e. The extent of confidence health professionals, health agencies, and organizations have in the program, and the consistency of their referrals.
f. The hours and days of operation - longer hours, e.g., 8 to 9 p.m. and on Saturdays, would permit more people to utilize the program.
g. The extent to which the program satisfies community needs. Here, it is not a matter of making tapes avail-

able that appeal to the curious; rather, does the subject matter address itself to local problems? The tapes most requested may well be an indicator of local needs.

h. Toll-free numbers would provide the the service to greater numbers. Few people will pay long-distance rates to listen to a 3 to 7-minute tape recording.

Cost Per Request

Prior to the implementation of Boise's Tel-Med program, the need to contain future operating costs was of vital concern. The Ada County Medical Society and the Board of Directors for the Central District Health Department desired to know what the program was costing at the end of each fiscal year (July 1 to June 30). Consensus among the members in both these groups was that if the cost proved to be "unrealistically high" then the program would have to be seriously evaluated and possibly discontinued if necessary.

This requisite did not pose a real problem. Program costs could easily be expressed as cost per request. The simple formula used to determine such a unit cost was:

$$\text{Cost per Request} = \frac{\text{Direct Costs + Indirect Costs + Equipment Depreciation}}{\text{Number of Tapes Requested + Number of Information Requests}}$$

Direct costs were defined as (1) the cost of personnel; (2) operating expenses - monthly Tel-Med fee, rental cost of telephone lines, telephone listings, and the cost of program promotion; and (3) capital outlay - new tapes and updating older ones. Indirect costs were defined as administrative costs calculated at 13.5% of the direct costs. This indirect cost figure included utilities, postage, insurance, secretarial time, travel, office supplies, bookkeeping, and other administrative staff time. Equipment depreciation was defined as the proportion by which the worth of the Teletronix tape deck player and the carrousel storage rack were devalued each year for five years. In other words, the equipment was determined to depreciate at 20% of the original cost each year for five years.

Only the second entire fiscal year (July 1, 1977 to June 30, 1978) of operation has been calculated here. The first eight months of Boise's operation, as with any new program, did not reflect a very realistic picture of the costs expected to be incurred over the long run. During the first months that Tel-Med operated, there were inordinate maintenance costs, installation costs, intensive promotional efforts, etc.

Each Tel-Med request during FY 1977 cost $1.14. Taken solely at face value, this figure may be of some interest, but to be truly meaningful, it needs to be compared against similar figures from similar programs. Cost per request for different telephone services of a similar nature are listed below (it is difficult to make valid comparisons between these figures because there is little certainty that all the calculations have been made using the same formula):

1. Tel-Med, Boise, FY 78 - $ .91/request
2. Tel-Med, San Bernardino, California, 1975 - $ .25/request
3. VD Hotline, Manmouth County, New Jersey, 1972 - $14.70/request
4. A study of 19 information and referral telephone services indicated that the costs of telephone requests (requests here include calls and necessary follow-up action) ranged from a low of $2.20/request to as high as $34.40/request. The median observed cost was $7.86/request.
5. Treasure Valley Information and Referral Service, Inc., Idaho 1977 - $3.04/request.
6. Can-Dial, Buffalo, New York, 1973 - $1.58/request

Further comparisons also need to be made between alternative educational and informational strategies before program costs are termed as "acceptable and realistic." It is conceivable that the same money could be spent more effectively to disseminate the same information by radio, television, or by special programs offered through physicians, or any number of public and private health agencies and organizations. Just the same, it is equally possible that Tel-Med may be more cost-effective than other options such as making unnecessary visits to physicians or dentists, or enrolling in classes to obtain information.

Year to year, the cost per request can be calculated and compared to the previous year of operation. This would provide staff with some indication of the impact of their promotional efforts and the program's acceptance in their area.

The cost per request should not constitute the sole criteria for determining program cost-effectiveness. Rather, one needs to ask, "In comparison to what is this cost considered reasonable and acceptable, or unrealistic and unacceptable?"

Concluding Remarks

Hopefully, future documentation of Tel-Med will continue. Boise's efforts here speak for only one program. The numerous other programs could no doubt contribute a vast amount more. It is strongly encouraged that information and ideas be exchanged in order for Tel-Med and other programs like it to fully realize their potential.

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Appendix A

Proposed Boise Tel-Med Budget
First Year

Operation & Installation Expenses

Playback Equipment	$5,212
Forty Tapes ($40. x 23)	920
Telephone Installation	75
Telephone Rental (3 lines @ $75. per month)	900
Installation of Telephone Couplers (2)	40
Promotion (pamphlets and telephone) (need 2 1/2 to 3 times this amount)	600
Supplies	400
Monthly Fee - $30. per month	360
Maintenance - $25. per month	300
Space (5' x 6' @ $6. per sq. ft. per year)	180
Health Educator (10% time)	1,400
Volunteer Coordinator (25% time)	2,286
Secretary (10% time)	744
Administration (5% time)	3,141
Fringe Benefits (18.5%)	1,401
TOTAL	$17,659

Receipts

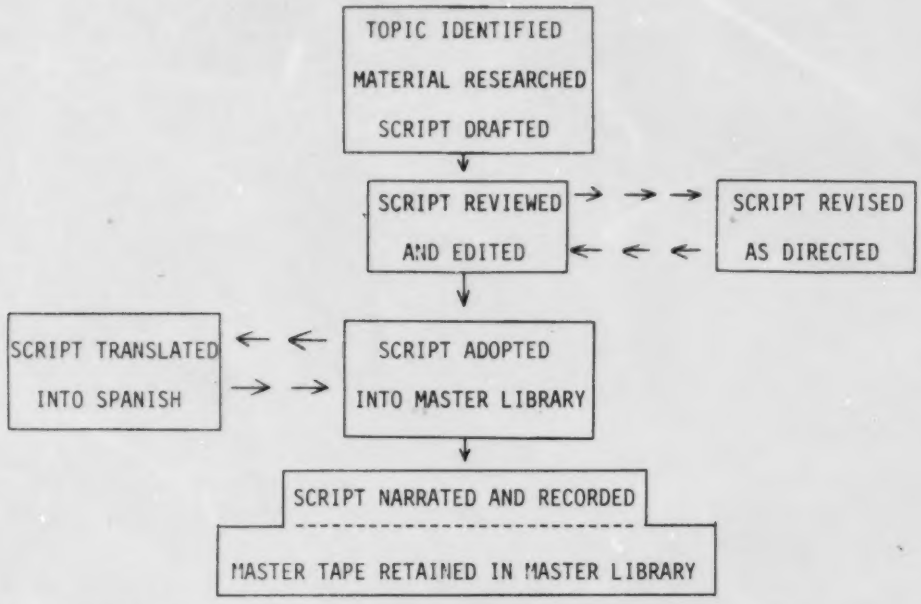
Health Systems, Inc. (cash)	$ 3,650
Central District Health Department (cash and "in-kind" match)	14,309
TOTAL	$17,659

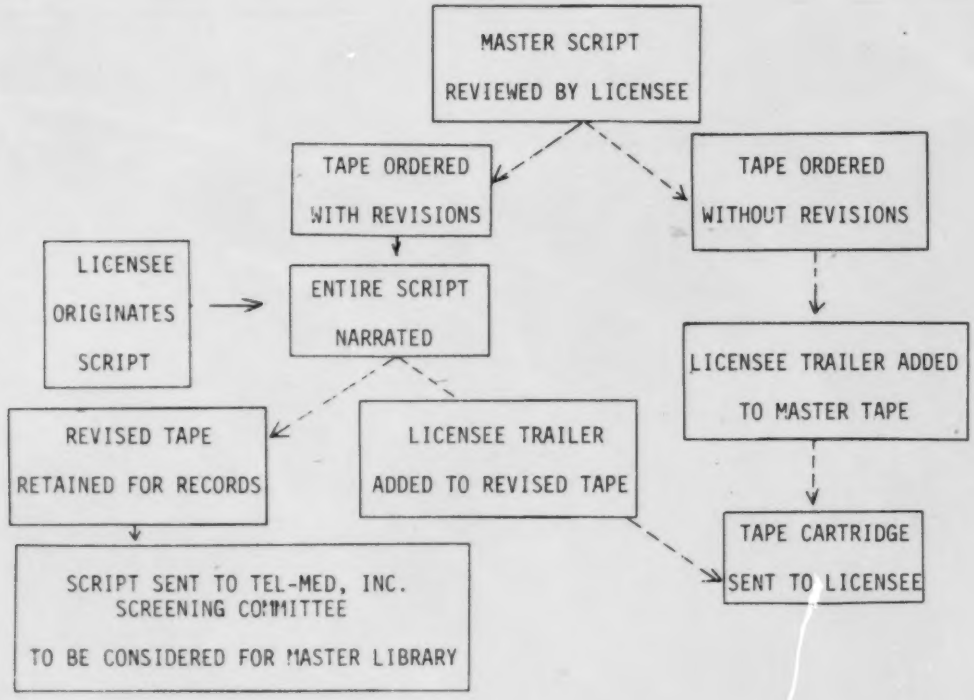
	HEALTH SYSTEMS, INC.	CENTRAL DISTRICT	TOTAL
Equipment	$2,910	$ 2,302	$ 5,212
Telephone Installation	50	25	75
40 Tapes	150	770	920
Promotion	500	100	600
Couplers	40		40
Space		180	180
Fee		360	360
Staff and Benefits		8,972	8,972
Telephone Rental		900	900
Supplies		400	400
TOTALS	$3,650	$14,009	$17,659

256

Appendix B

Explanatory Charts From Tel-Med, Inc. For Tape Making Process*




MASTER SCRIPT REVIEWED BY LICENSEE
TAPE ORDERED WITH REVISIONS
TAPE ORDERED WITHOUT REVISIONS
LICENSEE ORIGINATES SCRIPT
ENTIRE SCRIPT NARRATED
LICENSEE TRAILER ADDED TO MASTER TAPE
REVISED TAPE RETAINED FOR RECORDS
LICENSEE TRAILER ADDED TO REVISED TAPE
TAPE CARTRIDGE SENT TO LICENSEE
SCRIPT SENT TO TEL-MED, INC. SCREENING COMMITTEE TO BE CONSIDERED FOR MASTER LIBRARY

*Tel-Med, Inc. Newsletter: Vol. 1, No. 2, March 1976.

Appendix C

Boise's Tel-Med Data

The following data relates to Boise's first 24 months of operation (November 1975 to August 1978):

1. Total number of incoming requests - 24,180
   - Tapes requested 16,134
   - Information requests 954
   - After-hours calls 7,092

2. Using the total number of tapes requested (16,134) plus the number of information requests (954), it was determined that there was an average monthly volume of 502 requests. This compares to an average monthly volume of 637 requests in 1977 for the Information & Referral Service, Inc. which covers a ten-county area in Southwestern Idaho.

3. The average number of tapes requested in an average month (21 working days):
   118.8 per week 23.8 per day 3.0 per hour

4. The range of extremes in the number of tapes requested:

MOST		LEAST	
per hour	- 32	per hour	- 0
per day	- 92	per day	- 0
per month	- 917	per month	- 119

5. The overall pattern of hourly tape requests was an ascending one. There would be fewer requests in the morning hours, and then a discernable increase as the day progressed. The greatest number of requests were received between 3 and 5 p.m. (36 percent), the least number between 9 and 11 a.m. (15 percent).

6. An overall pattern of daily tape requests revealed a relatively even distribution. Daily percentages of requests were: Monday - 19%, Tuesday - 22%, Wednesday - 19%, Thursday - 21%, Friday - 19%.

   It should be pointed out that age and sex is basically an arbitrary distinction left to the judgment of the operator. That women are by far the greatest users of Tel-Med, is a fact borne out again and again by statistics from other programs.

7. Listed below are the tapes most requested by caller categories:*

By All Callers

	# Requests		# Requests
1. Marijuana	1,335	12. Warning Signs in Pregnancy	318
2. Am I Really Pregnant?	941	13. A Guide To Good Eating	308
3. Venereal Disease	796	14. Diaphragm, Foam, and Condom	305
4. Birth Control	616	15. Where Did I Come From, Mama?	304
5. Acne	519	16. Cancer's Seven Warning Signals	302
6. Vasectomy	473	17. Ready For The Skiing Season?	297
7. You May Have Diabetes and Not Know It	437	18. Is Drinking A Problem?	277
8. What Do You Get Out Of Smoking?	435	19. Gonorrhea	270
9. Breast Cancer	397	20. Bee Sting, It Can Cause Death	255
10. Depression	387		
11. Early Warning of Heart Attack	335		

*Since not all the taped messages have been added to the library at the same time, older tapes have been able to accrue a greater number of requests. There are, however, some recent taped messages added to the library which are not accounted for in the abridged tabulations. For example, Intrauterine Devices, Menopause, and Depression have been very popular even though less than a year old.

WOMEN CALLERS

		# Requests
1.	Am I Really Pregnant?	520
2.	Marijuana	426
3.	Venereal Disease	312
4.	You May Have Diabetes and Not Know It	293
5.	Birth Control	285
6.	Depression	253
7.	What Do You Get Out Of Smoking?	211
8.	Acne	208
9.	Warning Signs in Pregnancy	195
10.	Vasectomy	191
11.	Early Warning Signs of Heart Attack	180
12.	Breast Cancer	175
13.	Tension	162
14.	Menopause	156
15.	Cancer's Seven Warning Signs	155
16.	Diaphragm, Foam and Condom	150
17.	A Guide To Good Eating	144
18.	Is Drinking A Problem	139
19.	Pap Test	136
20.	Bee Sting, It Can Cause Death	111

MEN CALLERS

		# Requests
1.	Marijuana	322
2.	Venereal Disease	183
3.	Vasectomy	143
4.	What Do You Get Out Of Smoking?	100
5.	Birth Control	90
6.	Diaphragm, Foam and Condom	82
7.	Acne	79
8.	Early Warning of Heart Attack	69
9.	You May Have Diabetes and Not Know It	61
10.	Are You Ready For The Skiing Season?	41
11.	Gonorrhea	54
12.	Depression	51
13.	Am I Really Pregnant?	50
14.	Fears of the After-Forty Man	40
15.	Cancer's Seven Warning Signals	38
16.	Tension - Helpful or Harmful?	36
17.	Cockroaches	35
18.	A Guide to Good Eating	35
19.	Is Drinking A Problem?	33
20.	Drug Abuse Resources in Ada County	32

CHILDREN CALLERS

		# Requests
1.	Marijuana	335
2.	Am I Pregnant?	217
3.	Venereal Disease	192
4.	Birth Control	138
5.	Acne	136
6.	Are You Ready For The Skiing Season?	127
7.	Where Did I Come From, Mama?	101
8.	Vasectomy	100
9.	Bee Sting, It Can Cause Death	89
10.	Breast Cancer	89
11.	Diaphragm, Foam and Condom	80
12.	Gonorrhea	75
13.	What Do You Get Out Of Smoking?	65
14.	You May Have Diabetes and Not Know It	57
15.	Poisons in the Home	53
16.	The Pill	51
17.	A Guide To Good Eating	50
18.	Warning Signs in Pregnancy	49
19.	Bee Sting, It Can Cause Death	49
20.	L S D	48

9. The following untaped topics have been requested by callers:

1.	Abortion	8.	Eyes - vision	15.	Menstruation
2.	Appendicitis	9.	Growth and maturation	16.	Mononucleosis
3.	Bladder infection	10.	Hearing problems	17.	Pregnancy testing
4.	Boyfriends	11.	Heroin	18.	Rickets
5.	Crabs	12.	Homosexuality	19.	Scarlet fever
6.	Diarrhea	13.	How to have a baby	20.	Speech problems
7.	Digestive system	14.	Liver cirrhosis	21.	Strep throat

TELEPHONE ACCESS TAPE INFORMATION SYSTEMS

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Introduction

Telephone access tape information systems, commonly known as Dial Access systems, are currently in a period of growth and expansion. New systems with new programming ideas are sprouting up all around the country, and many existing systems are expanding the range of their offerings.

This happy state of affairs is reflected in the technology used in these systems. That is to say, a healthy variety of units are now available and in wide use. Most of these units are manually operated. In addition, work is being done by a number of different firms on the development and/or refining of automated systems.

As shall be seen in the last part of this paper, a number of technical innovations for Dial systems are on the horizon. These include completely automated, computerized systems of a sophistication not yet available.

In the meantime, we'll begin by dicussing a range of systems currently available, and then look at an automated system being developed by Instructional Communications Systems at the University of Wisconsin-Extension.

Manual Systems

Today most tape information systems use machines (or technologies) which are manually operated. This means an operator must answer calls into the system, and ask for the number of the tape the caller wishes to hear. In most systems, the operator would then reach for either a cassette or a cartridge containing the desired information, and place it into a playback unit assigned to a telephone line.

These playback units range in sophistication from single-cartridge converted automobile cassette players to 3' by 5' cartridge player consoles accommodating up to 15 channels.

Cassette Units

Communications Equipment Corporation in Madison, Wisconsin, is one firm supplying the converted cassette players to tape information programmers. To transmit the tape impulse over the telephone line, a recorder-coupler supplied by the telephone company is used. When the tape message is completed or the caller hangs up, this device terminates the call.

A number of cassette play-back units now on the market have been designed specifically for use in telephone tape systems. Telephone Information Systems (TIS) of Laguna Hills, California, makes the Telecom 450/SAM. This is a semi-automatic tape console that offers simultaneous handling of

from one to eight lines and messages, randomly accessed. The company also makes larger custom designs. The playback units comprising the Telecom 450/SAM are modular in design, which means one or more of them can be added or subtracted from the system for repair or call volume changes without affecting the operation of the other units. Each playback unit, then, is electronically complete. Several other features of this equipment should be mentioned here:

An operator intercept feature, which TIS claims they offer exclusively, tells the system attendant at the end of a call to re-connect with the caller. This could be for any number of reasons, depending on what was said in the tape. In addition to the indicator lights standard for cassette playback units, the Telecom 450/SAM has an indicator light for equipment malfunction. Another feature concerns the transport, which, by completely disengaging as a tape rewinds, cuts down on tape wear.

Another cassette playback unit designed specifically for tape information systems is the Telecassette Model 34, manufactured by J-Tec Associates, Inc., Cedar Rapids, Iowa. Also modular in design, each model is an independent unit electronically and can accommodate a single cassette played over one telephone line. A special feature of this machine is a resettable counter which automatically records the number of calls received. The Telecassette Model 34 is designed for use in conjunction with voice connection couplers supplied by the telephone company.

Several models of this equipment are available. Telecassette Model 34A can be rack-mounted for convenient multi-unit use. Model 34B is a desk top model. Model 34B/C is a desk top model which has a record feature, allowing connection to any standard cassette player which records the message from the caller.

Cartridge Units

Competing with the cassette units we've been discussing are systems which use cartridges instead.

One company whose equipment is in wide use is Teletronix Information Systems of Redlands, California. Teletronix manufactures what it calls the TS module, containing a tape deck(s), servo motor and all system electronics. This unit has one channel and can accommodate one telephone line. The model comes in a desk-top style.

By adding 2 plug-in components to the TS-1, it becomes a TS-2 module capable of handling 2 telephone lines. Consoles featuring different combinations of modules, and serving up to 15 channels, are also available. These are known as the 1500 Series, (offering up to 15 channels) and the smaller 500 Series (offering up to 5). Both series have an automatic logging feature as well as an automatic answering feature which runs when the operator is off-duty.

Another company manufacturing cartridge playback units is IGM of Seattle, Washington. Their Instacart machine is a fully automated unit, offering random access within seconds to any of from 12 to 48 cartridges. Each set of 12 cartridges has its own motor. Both the Teletronix models and the IGM Instacart use continous loop, heavy-duty, high-quality NAB-standardized (National Association of Broadcasters) cartridges.

The Type A Instacart machine, which plays one cartridge at a time to one output, was originally used in radio stations across the country. More recently, the Type B Instacart was developed to serve other purposes, and telephone tape information systems is one of these. This latter machine is more flexible than the Type A Instacart in that it can play one or more cartridges simultaneously through one or more separate outputs.

There is currently a Type B Instacart installed in a San Francisco Hotel, allowing guests to dial direct for tapes from any phone within the hotel. The cartridges on the system offer hotel information on 9 subjects in 5 different languages.

At present, the Instacart is only operable over "in-house" or dedicated telephone lines. Thus, it could be used in a Dial Access system serving patients or health professionals within a hospital, for example, but not in a community or statewide Dial Health system using regular telephone company lines. If IGM develops an interface between their equipment and the telephone lines, then the Instacart could

be usable in this latter type of Dial system.

Reel-To-Reel Units

Not all Dial systems use cartridge or cassette units; some have equipment featuring audio tape reels with multi-track capability. These systems are closer in design to the language laboratory Dial or DAIR (Dial Access Information Retrieval) systems widely implemented in colleges and universities in the '60s. One example is known as RAIM, short for Random Access Information Machine. RAIM is made by the Tape All Company of San Diego, California. This equipment feature 80 audio tracks, with each 4-inch tape capable of storing up to 20 minutes of information. Any track can be accessed within seconds. In addition, RAIM offers a record feature. A number of universities are using RAIM for their Dial systems and also to record incoming calls for staff.

It should be noted that RAIM can play just one track or message at a time. This means that a system would require multiple machines in order to provide simultaneous handling of tapes.

Another Tape All product is the RTD-350 Remote Control Tape Deck. This equipment offers 160 separate program tracks - twice the capacity of RAIM - with up to 20 minutes per track. This yields a 50 hour recording capability. The RTD-350 can record a playback in 2 simultaneous tracks. This machine seems to have the capability of being adapted as an automated Dial Access system.

Automated Systems

There are automated Dial Access systems currently operating which use telephone company lines, but they have serious limitations. One of the oldest and biggest of these is known as "Chester," of Bellevue Community College in Bellevue, Washington. Chester is accessible without operator intervention from any touch-tone phone within the community of Bellevue. There are 10 in-coming, off-campus lines, served by 24 stereo tape-decks running 2 programs each. This means that no more than 48 separate programs can be offered at a given time. The programing caters mainly to longer (average 20 minutes) instructional tapes. Chester Electronics of Chester, Connecticut, designed this system in 1969, but they have since ceased operations.

Another touch-tone Dial system operates out of the Christian Science Church headquarters in Boston. Although at present accessed only by "in-house" touch-tone phones within various Christian Science centers around Boston, the system's interface has been tested for use with regular touch-tone phones in the area. The results indicate that the transition to use by people with touch-tone phones in private residences could be made very easily.

The equipment used in this system was designed by Electronic Media Company of San Rafael, California (no longer operating) using basic components manufactured by Tape All Company. The system uses a modified reel-to-reel machine with 4-inch wide magnetic tape. As with another Tape All machine previously mentioned, this unit can play just one message at a time. Thus, multiple units are in operation in this system in order to serve the 15 to 16 out-going lines in operation.

Obviously, if you have a system carrying hundreds of short messages over multiple lines to thousands of people, a machine capable of playing only one message at a time will not be sufficient. Many machines of the same type will be needed to handle the call volume.

And if a system is accessible only via touch-tone phone, this leaves approximately 70% of the population unable to use the system.

Automation at ICS

Assessing the need for a statewide Dial system to serve the 4.6 million residents of Wisconsin, Instructional Communications Systems (ICS) of the University of Wisconsin-Extension undertook the development of an automated system in 1978. With a grant from the Department of Health, Education, and Welfare, ICS contracted with

International Tapetronics Corporation of Bloomington, Illinois, to develop a tape storage and random access retrieval unit. In addition, work is being conducted with the Physical Sciences Laboratory of Stoughton, Wisconsin on the development of an interface between the equipment and the regular telephone system to provide expanded, more efficient service without having to increase staff.

The intent was to develop an automated tape storage and random access retrieval mechanism, along with an interface allowing for recognition of any touch tones or frequencies and dial generated clicks or pulses without special equipment.

Work is near completion on the tape storage and random access retrieval mechanism, which has been give the name "IK". This machine is a computerized system which receives, stores, moves and plays cartridges automatically. Tape messages are supplied to playback machines from storage by a transfer mechanism controlled by an onboard computer. The computer controls all mechanical and electronic functions. It will communicate through a telephone line controller to provide the requested message to system users.

The storage system is capable of storing 1,024 tape messages. This will be expandable up to 8 times by adding additional storage mechanisms. The systems will have 12 playback tape machines included, with the capacity to expand to 20 machines. Cartridges are supplied to these machines from twin storage cylinders, each holding 512 cartridges. Twin transfer mechanisms move the cartridges between the two cylinders and the playback machines.

The machine is programmed to provide rapid random access to any tape in storage. The average reponse time is approximately 5 seconds.

This system provides for loading, unloading, replacing and processing audio tape cartridges with an electronic hand-held keyboard. It also provides a data output for logging statistical information concerning system usage, such as message number, time of day, date, telephone line number, cartridge machine number, mis-dials, whether the requested tape was busy, etc.

Results of tests done on the interfaces developed for both dial and touch-tone originated signals indicate that a completely automated system is not viable on a statewide basis at this time.

Generally modern telephone systems do not pass rotary dial generated clicks with sufficient reliability to be used as a means to signal a tape selection. Once a call is established, the local central office and intercity toll circuits react to any further dialing. Some of the findings during the test were that:

- Some telephone sets added extra clicks to the number dialed.
- Some central offices masked all dial clicks after the first one.
- Dialing caused the line to disconnect.
- A call placed through an "Electronic Switching System" equipped central office was intercepted, in effect also causing a disconnect.

The advance of technology in the telephone industry particularly in electronic switching machines, has led telephone system planners to adopt an apparent standard. Dial pulses and switch hook flashes are used as supervisory signals such as call forward and add on, etc. Touch tone or Dual tone multiple frequency DTMF signals are used to signal over the telephone system.

These results lead to the conclusion that at this time an attendant operator must be on hand to serve some calls. Though a fully automated system is not practical now, still better service can be provided using semi-automatic operation.

An attendant operator can handle 6 to 8 calls per minute if he/she needs only to answer the call and enter the tape request locally via a touch pad. This will work and is the current plan for the initial operation of the ICS Dial service.

The goal of a fully automated system is to respond to requests generated by a caller using any telephone without special attachments. The application of recent advances in computer technology could make this goal possible in the near future.

Speech Recognition Systems

The application of recent research and development of speech recognition systems appears to be the answer to providing a fully automated, unattended system. A machine that can recognize a spoken tape number over the telephone system will remove the remaining block to this goal.

Work being done by computer hobbyists and professionals shows promise that speaker independent recognition will be developed and available in the near future.

Work at Bell Labs by Itakura, Rabiner and Rosenberg[1] have led to a system that currently recognizes 39 spoken words. These include the numbers 0 through 9 as well as the words stop, error and repeat. Hopefully, this will be made available soon as an inexpensive system.

The solution may well come from computer hobbyists and experimenters. Their creative efforts on limited budgets could likely provide a viable inexpensive system through the advantage of mass production by the computer industry serving this growing hobby.[2-5]

The combination of automatic tape storage and retrieval machines being developed and a speech recognition system will predictably be the automated Dial Access system of the near future.

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TELETRONIX INFORMATION SYSTEMS: SEVEN YEARS OF DIAL ACCESS

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80 million calls to Teletronix Information Systems in 375 cities prove conclusively that the "system is the solution." Some organizations manufacture equipment that play tapes, some of these play tapes over the telephone. Other organizations have authored tape libraries. Teletronix decided to become involved in these two vital functions, but, in addition, to develop a five part system that will provide complete support for public service telephone tape libraries. This system is designed to support millions of calls by providing a complete communications network, not just a single component to support a few hundred local calls. The components of this interrelated chain are: the tape library, the equipment, the telephone network, the tape librarian, and program promotion.

The Teletronix Information System service for the millions is based on quality performance insured by simplicity and integrated system design. We insist that all components in the system maintain consistent high quality since a flaw in one part weakens the performance of the whole. Quality standards are different for each component. For example, a poorly recorded master tape cannot be duplicated with high audio quality even on the best of equipment. Likewise, a flawless recording is weakened by a poor connection to the telephone network; the impact of an excellent script is diminished if the caller is rudely received.

We begin with scripts authored by professionals which have been recorded under optimum studio conditions for the telephone medium. These premium quality cartridge tapes are reproduced for the caller on equipment designed specifically for this purpose and connected to the telephone line with FCC certified coupling designed to reproduce the original audio at its best, optimized for the telephone frequency response. The tape librarian has been selected and trained to operate the program in a professional manner. The library has been promoted since its inception to insure high volume, maximum use. A single program may reach hundreds of thousands each year. There are 375 installations currently operating with ten to fifteen new ones each month. We are discussing, to date, at least $90,000,000 in public service telephone instruction. Nine million hours of orientation, information and instruction have been provided free to the public by sponsoring organizations. The responsibility represented by these figures demands the ultimate in quality. This paper will explain how Teletronix Information Systems has met the challenges represented by these statistics, and present quality standards for each component and the system. The investigation will cover the integration of the five part system--the libraries, the equipment, the telephone network, the tape librarians, and promotion--which, taken together, provide the highest quality, most reliable dissemination of information available.

The Tape Libraries

Teletronix is proud of its relationship with Tel-Med. The development of the Tel-Med library in the early seventies is familiar to those acquainted with the history of dial access. In response to a community need for reliable, low-cost health information, The San Bernardino County Medical Society developed the tape library of health information that could be transmitted to the public by telephone. The varied benefits of this program, from protecting the identity of the caller to preserving the time of the doctor, were immediately obvious. The response to the program underscored the need for health information available at any time over the telephone. Tel-Med began to make its tapes available to other cities through license agreements. In the first five years the program had spread to 100 cities; in seven years it expanded to more than 200 cities. As noted in Modern Health Care, Tel-Med is becoming the busiest patient educator in America today.

Tel-Med serves its licensees from efficient offices in the San Bernardino County Medical Society building in Colton, California. A visitor to the facility immediately notices the Teletronix Tel-Med/Tel-Law cubicle in the lobby. Separated from the viewer by a glass

partition, a volunteer librarian tends a gold and brown formica-covered floor-standing console with writing desk. This is the model 1515. The console is flanked by free standing storage racks, each holding 105 cartridges, three on the right for Tel-Med tapes and two on the left for Tel-Law tapes. Additional storage racks in the cubicle contain the Spanish translations. The modular console houses ten telephone lines (824-7000) for receiving Tel-Med calls and five telephone lines (824-2300) for Tel-Law calls. The librarian keeps manual records of specific tape volume and records the identity of callers as to man, woman, or child.

The national headquarters for Tel-Med, Inc. are located in the east wing of the building. The organization of the master library and the on-going services provided to their licensees are two reasons why Tel-Med is a model for those seeking to emulate a successful library system. The tape library approach initiated by Tel-Med was at first thought to be a medical approach, but it has since provided guidelines for the standard of quality which is now the Teletronix standard for all affiliated libraries.

All tapes are authored by a professional: if it is medical, a doctor writes it; if it is legal, an attorney is the author. CounseLine is written by psychologists; Tel-Consumer is compiled by consumer advocates; Parent Talk is authored by the national authority on preschool education. Each authored script is translated into telephone English by a telephone journalist, and then returned to the original author for review. The next step is for the script to be reviewed by two specialists of the same profession and for a rough recording to be listened to by a lay committee. If revisions are necessary the script is recycled through each step. The script is now ready for master recording. The audio master is then reviewed and approved by a board of professional examiners consisting solely of professionals from the same field. Only after passing this exacting screening process is the tape made available by duplication on cartridges for distribution to the licensee's programs. After seven years of service, and 80 million calls, the public has never voiced dissatisfaction with the program, never filed a legal action concerning the content of the tapes. The tapes provide truly reliable information.

Like Tel-Med, Teletronix recognizes in all programs that local professionals are entitled, licensed, and even required to edit and approve the tape libraries for local relevance. In other words, when the public hears about the program for the first time in local media, it has been accepted, approved, reviewed, and edited by local professionals as required for local use. This also has the distinct advantage of providing the enthusiastic support of the local professionals to their patients, clients or customers. Teletronix prepares the locally edited scripts for recording with trailers identifying local sponsors, and the resulting library has each cartridge custom duplicated.

Through the years some tape library fundamentals have been established. In the beginning it was felt that these might be only medical tape library fundamentals since they grew out of the Tel-Med experience, but time has shown them to be requirements for successful dial access operation.

First of all, the anonymity of the caller is sacred. In early program evaluations an evaluator attempted to ask the caller to stay on the line for questions, but the callers hung up. This is just as true for tape #44 on ulcers as it is for tape #174 on masturbation or tape #195 on bee stings. The standards of privacy that are observed by the medical profession are also required by the callers to the library, not just medical libraries, but those involving the law, money, and counseling to name but a few.

The second fundamental is that the average American is one of the world's last great individualists. The American public usually is unwilling to admit to anyone, maybe even to themselves, that they don't know the answer. They are certainly unwilling to "go public" in their search for a solution to a problem. The tape libraries fill this need to have information without revelation.

A third point is the accessibility of the information. The caller isn't put off until an appointment when he has finally decided to seek help with his problem. The information is not scheduled but is available immediately when the need arises--as close as the telephone.

A final point is almost overlooked for its obvious quality: the information is necessary. A sixteen year old boy is putting a dime into a pay phone thirty blocks from home, he's afraid to discuss his problem with his parents, afraid to tell his pastor, doesn't know how to contact a doctor. He is now more afraid of what he doesn't know than of the information he needs. He calls 824-7000 and asks for tape #16, Gonorrhea. Perhaps he really doesn't have a problem or perhaps he will need to seek help at a VD clinic. In either case, now he will know. His need for information is acute.

Tel-Med was only the first organization to use the Teletronix system concept to make its information available to the public. Tel-Law was initiated by the San Bernardino County and Riverside County Bar Associations soon after

Tel-Med's start. This library, offering information on the justice system, has been widely acclaimed. Alan E. Kurland, ABA editor of the Bar Leader states in his January 1979 editorial, "I seldom use this column to describe bar programs, preferring that this kind of information should run in our news columns. But I believe that Tel-Law is the most innovative and exciting bar association project to be developed in many years, and I want to share this excitement with you." In areas where the program has been initiated and promoted, appointments to local lawyer referral services show a marked increase. As will be described later in this paper, the two services, Tel-Law and lawyer referral, are being combined in some areas for efficient operation. Like Tel-Med, Tel-Law meets a real need for professional information.

Other members of the Teletronix Information Systems family of related libraries are Tel-Money, Tel-Pet, Parent Talk, CounseLine, Tel-Consumer, Tel-U and Tel-Hospital. New libraries are in preparation. Each of the existing libraries is developed and revised by highly accredited professionals meeting the standard for quality already described. Each has features unique to its concept. The Tel-Hospital library, for example, developed by Gerald Atlas, M.D. of Chicago, is a prescription program providing bedside orientation for hospital procedures, acquainting patients with medical procedures and with their essential role as a part of the health care team rather than an object of the team's activity. It has already been translated into five languages.

The related libraries are an integral part of the Teletronix Information Systems program. Teletronix has found that the four fundamentals mentioned earlier--anonymity, accessibility, availability and necessity--are fundamentals that apply to all public service tape library programs. They have proven to be tape library fundamentals whether for Tel-Med, Tel-Law, Parent Talk, CounseLine, Tel-Money, Tel-Consumer, Tel-U or even for Tel-Pet.

The public service tape libraries are one application of the Teletronix system. Exceptional programs for the professional are another innovative use of Teletronix technology. The Southern Medical Association of Birmingham, Alabama Dial Access program is one example. The Dial Access program has eight libraries each consisting of 100 tapes, dedicated to specific medical specialities. These libraries are available 24-hours a day to provide physicians with information particular to their specialization. The Dial Access tapes are written by national experts at medical research centers incorporating the latest findings. Doctors receive continuing education credit for listening to tapes that provide medical information on diseases and the preferred treatment and prescribed procedures.

With the exacting standards of professional scripts and local relevance established, we next turn to the mechanical and electronics function of reproduction. The announcer's voice must coincide with the program content and callers' reaction. An authoritarian voice for Tel-Med may not be the tone for CounseLine. The slow, easy pace of Tel-Law is not acceptable for hurried doctors calling Southern Medical Association's Dial Access. In the beginning, we assumed there are "natural" scripts that would require a male or female narration. Now the number is 50 percent. It usually doesn't relate to script content. A medium range female voice fits the middle of the 300 to 3000 Hertz telephone frequency response best. Deep male voices and high pitched female voices are unacceptable.

The recording studio is not the same one for "normal" music recording. The voice room must be optimized for liveliness as opposed to old-fashioned dead sound. The room acoustics are optimized to the 300 to 3000 Hertz telephone response. Cartridge duplication including custom trailers are performed from original masters to keep "generations" to an absolute minimum. Large scale duplication of thousands of copies is not the approach. Each library is custom duplicated for its installation. Each cartridge is warranted for 90 days to assure the elimination of any manufacturing mistakes. Labels must be large and legible for years of tape librarian operation and copyright definition as required by law.

The quality of the tape library module can be summarized as follows:

1. The author is an expert in the profession covered by the script.
2. A rigid script screening process is required.
3. All scripts are custom reviewed, edited, and approved by local professionals for local relevance.
4. The announcer is selected by program and caller criteria with a voice optimized for telephone frequency response.
5. The master recording is made in an audio and electronics environment optimized for telephone frequency response.
6. Master recordings are duplicated with high quality equipment onto NAB standard cartridges with 90-day warranty.

Teletronix Equipment

The First Generation-Cartridge Reproduction

In the early seventies the page was blank, headed only by the question: How are we going to talk over the telephone with tapes? Tape libraries were being developed. How could this information best be made available to the waiting public? Out of the complete spectrum of audio technology many systems were reviewed: multi-track, reel-to-reel, video discs, digital storage units, computers, automated systems without operators, manually operated cartridges and cassettes. All but cartridges and cassettes proved infeasible for a number of reasons, most commonly personal touch, expense, practicality, and maintenance. Cassettes were investigated at length. They were familiar, easy to use, and inexpensive. Technology for quick reproduction of cassettes existed. However, the construction of the cassette itself with its plastic gears make it an additional moving part involved in the reproduction of the audio. As the cassette is popped in, pushed down, turned, played and popped out, its physical life and audio quality are affected. The average life of a telephone cassette tape cannot provide acceptable quality for the millions for any reasonable cost.

The National Association of Broadcasters standard cartridge is the superior medium for the telephone. The cartridge functions solely as a place to store tape. The NAB cartridge contains a continuous loop of tape with the two ends spliced together making it unnecessary to rewind the tape after use. The tape is loaded to the precise length of the message minimizing expensive dead time on the telephone. The cue tone stops the tape at the end of the message. The tapes are therefore immediately ready for replay. Like the recording industry reel-to-reel equipment, the cartridge playback player is designed to preserve the original audio quality of the recording by avoiding stress to the tape itself. A pinch roller, free turning on ball bearings, moves into the cartridge storage bin and pushes the tape out and into contact with the capstan shaft. The capstan shaft has been precision ground which, together with precise motor speed, assures accurate 3-3/4 inch per second cartridge speed. This is to assure the quality of voice tones. At the end of the message the pinch roller pops out, and the cartridge is ready to be stored or played again.

Other advantages of the NAB cartridge tapes include their size which make it possible to affix a bold, legible label and allows for easy handling since they fit comfortably into the hand. More significantly, each cartridge is a self-contained program. This feature allows for continuous update of the tapes individually without affecting the entire library. When a tape is revised, or when a new tape is recorded, the old one is simply pulled from the storage rack and the new tape substituted.

The choice of cartridges insures a long life with cartridge tapes having demonstrated more then twelve thousand plays with acceptable quality. Teletronix selected the NAB cartridges as the vehicle to present information over the phone. The production of each cartridge is a carefully engineered process using advanced reproduction equipment which duplicates the master tape and includes a custom trailer.

Early in the design concept selection, Teletronix recognized the need for a complete system which included the tape playback equipment, all telephone electronics, hand set or head set, tape cartridges, storage racks--a self-contained, complete tape information library station human-engineered for years of efficient operation.

The first generation tape playback equipment had seventeen moving parts per deck using the latest radio industry technology at the time and a separate telephone console with telephone company mechanical detent pushbuttons. Printed circuit boards contain all electronics. After the experience of two to three million calls, it became apparent that too many field adjustments were necessary on this equipment to maintain optimum performance in a lay environment. Sending technicians to service equipment became too costly. This led to the development in 1974 of second generation equipment engineered with only one moving part per deck, ruggedized to eliminate costly field adjustments and human-engineered to expand the operators efficiency from ten lines to at least fifteen.

Advances in the state-of-the-art of cartridge playback devices and intergrated circuits were instrumental in development of the new standard component of Teletronix equipment, the TS series modules. The module contains the tape deck(s), servo motor and all system electronics. The models feature electronic, rather than manual, pushbuttons which have the dual advantages of being multi-purpose and trouble free. The TS-1 is a one-channel module serving one telephone line. Two principle plug-in components can be added to the TS-1 to expand it to a TS-2 module, serving two telephone lines. Multiple TS modules are used in Teletronix models from six to fifteen channels. The Teletronix 1500 series is an integrated telephone information system from one to fifteen lines. All models feature a full-function telephone system, with a handset or a headset

provided. Manual or automatic operation, tape play counter, hold and disconnect buttons are standard equipment.

The equipment is delivered and installed by a factory trained technician who then trains the local serviceman. The equipment is fully warranted on site for fourteen months from the date of shipment. Teletronix realizes that public service library programs must stay on the air at all times. The equipment performs 24-hours each day in manual or automatic mode. It is not feasible to ship systems back to the factory for repair. Therefore problems that occur are serviced locally while in-place, thereby keeping the programs continuously operating. After the original warranty expires, post-warranty service with local trained technicians using factory parts is provided. An annual maintenance agreement that will last indefinitely is available should the customer so desire.

The Third Generation--FCC Certification

Simplicity is the goal of Teletronix Information Systems and installation and maintenance of the equipment were further simplified when the FCC certified the TS series for direct connection to the telephone line, bypassing the need for interconnect couplers. In the fall of 1978 an independent laboratory testing service conducted an exhaustive series of tests justifying this certification.

In certifying equipment for direct connection to the telephone lines, the FCC is concerned with two principle factors: damage to the telephone company equipment and/or their personnel from voltage irregularities from the connected equipment and damage to the connected equipment and/or personnel attending it from voltage irregularities from the telephone company equipment. Teletronix equipment was tested in 1978 and successfully passed the stringent requirements to receive FCC certification. The TS-5 Model with 1105 interface card was tested for hazardous voltage limitations, signal power limitations, environmental stimulation response, leakage current limitations, and additional voltage testing. All provisions of the FCC tests were met by the tested equipment.

Now Teletronix Information Systems could be connected directly to the telephone lines. The customer need only tell the telephone company how many lines are needed and where they are to be installed. The complicated correspondence and scheduling required to secure telephone company couplers, assure the interface, and check-out the equipment were eliminated. Each model of the second generation equipment can be updated to third generation in the field.

The reliability of the system took a step increase by eliminating the separate relays and components of the coupler itself. Two other distinct payoffs resulted: first, audio quality improved by direct access with a shortened path to the telephone line. Second, now that the system can talk directly to the telephone line new applications are available. Normally the system functions with a single cue tone (25 hertz) at the end of the message. This cue tone stops the tape, disconnects the incoming call and turns out the console lamp to advise the tape librarian to return the tape to the storage rack. An additional feature of the third generation equipment is a second cue tone (1477 hertz). This cue tone, when added to the first on specific cartridges, returns the caller to hold, lighting the flashing hold lamp. Since 1477 hertz is also touchtone nine on a touchtone phone, the caller can be told to touch number nine at any time during the tape to return the tape librarian to the line. The tape can advise the caller to stay on the line for additional information or assistance.

The practical applications of this new feature are as varied as the tape library programs. In the case of Tel-Law, the tape may advise the caller to stay on the line and arrange an appointment with a lawyer. In this case, the Tel-Law program is connected directly to lawyer referral service, and the caller can obtain an appointment with an attorney before the caller leaves the line. More dramatic are the applications for a program such as Counse-Line. The caller has asked for the suicide tape, the tape librarian notices the hold lamp flashing and simultaneously notices that the caller is listening to tape #491, Suicidal Crisis. The caller is immediately back in touch with another human voice, the life line, and can be scheduled for counseling or transferred to a waiting professional. The program services to the public are broadened.

Advances are taking place in other parts of the equipment. Computer interface is now a real possibility. With this option each channel can be connected with a computer interface terminal. Each tape can be coded with an electronic signature. The data can be stored and accessed by telephone connection to a remote Teletronix terminal. Previous day's records of tapes and times of calls can be summarized for the customer. As an example, call volume for determining optimum scheduling hours, identification of peak days of the month, analysis of most preferred tapes, call versus time of day graphs, and additional information can be compiled for analysis. With recording accessories the tape librarian can question the caller for name, address, and tape number to computer-

record containing education credit for professional certification.

One final application further illustrates the service that can be offered to the public when the system computer interface is used. The program has been called Tel-Need.

Most every medium size and larger communities now have an information and referral service. A call is received from an elderly man whose wife is about to be released from an acute care hospital, and she will require transfer to a convalescent hospital. She requires kosher food, she lives on the north side of town, and she needs Medicare. The Tel-Need operator answers the call at a Teletronix console equipped with a mini-computer, an alphanumeric keyboard and a CRT display screen. The operator codes the information and immediately the names of eight convalescent hospitals on the north side of town offering kosher food and accepting Medicare are displayed. The operator advises the caller, and the caller requests more information on number six. A tape describing number six is played for the caller. The tape advises the caller of all important details concerning the convalescent hospital, including cost, location and registration information.

The advantages of this system are self-evident. The program is also self-supporting. For a fee of say, twenty-five dollars a year Tel-Need can list the name of each local agency in the computer with appropriate cross references. For a fee of say, seventy-five dollars a year Tel-Need will keep the agency tape available in the library. This tape is written by the agency itself with up-to-date information about their fees and services.

Tel-Need, as outlined above, is a prototype program with many applications outside the public service field.

Quality as defined for the equipment module can be summarized as follows:

1. The equipment must be designed for simplicity and ruggedness for years of 24-hour a day trouble-free operation and capable of handling millions of calls.
2. The equipment efficiency must be optimized to minimize the long-term program expense - labor cost. Cartridge cost should average less than ½ cent per call with average total call cost less than 15 cents per call.
3. The equipment must provide for accurate voice tones without audio degradation over the 300 to 3000 hertz frequency response of the telephone with audio volume as good as or better than normal telephone voice levels.
4. The equipment must be able to expand with plug-in components to allow program growth.
5. No reasonable limit should be placed on library size.
6. Equipment must be serviced in-place with long-term local service support.
7. Equipment must accept rapid advances in technology without becoming obsolete.

The Telephone Network

The Teletronix Information System could not function without the telephone network, and the telephone interface can be one of the most complex problems in the system. The telephone provides the dial in the dial access system, delivering information that reaches every community and into the homes, offices and institutions in those communities. The telephone system makes the people available to the message and the message available to the people. Teletronix is skilled in assisting a local program to optimize the criteria for the telephone network.

Teletronix assists in selecting the telephone prefix with the widest toll-free dialing area. Experience has shown that foreign exchange and WATS lines are, in general, too expensive to operate, difficult to promote, and unattractive to the general public. Most people are more comfortable calling a decentralized local number for information on sensitive issues. In those cases where an entire county is covered and part of the county is in another toll-free number, Teletronix is experienced at working with the telephone company to select the optimum approach. Frequently, another city within the same county can have a similar program installed, purchase two sets of equipment and tapes, and reduce total operating costs of the program.

Again, simplicity is the key. The telephone network is in place reaching the entire population. The tapes are ready; the equipment is available. The telephone company lies in the middle of the system connecting the tape libraries and playback equipment with the attending personnel and the promotional programs. The installation of the telephone system requires the RJ21X interconnect. Teletronix prepares appropriate letters to the local telephone company and works with each one to assure that the telephone side of the interconnect has been properly completed before the equipment is installed.

The telephone company lines, and the bill for these lines, are essential to the operation

of a public service dial access program. Teletronix advises on how to keep telephone bills low because customers do not gain equity in the telephone company by paying telephone bills.

The quality of the telephone network module is defined as follows:

1. Provide the customer with all data to select the least expensive solution to the callers in the Dial Access cachement area.
2. Provide the customer with draft letters and forms to assure the correct telephone order.
3. Interconnect with the telephone company at the simplest interface (RJ21X) to assure well defined responsibility for correcting operational problems.

The Tape Librarian

Operating the Teletronix Information System equipment is as easy as answering the telephone, but the tape librarian does more than say hello. She (most often) is a vital link with the public, a key to the successful operation of the system.

The tape librarian is alerted to an incoming call by an audible warble tone and a flashing answer lamp on the console. She removes the handset from the hook, (or is wearing a headset) presses the answer button, and answers the call. The answer light remains brightly lit while she speaks to the caller. In most cases the calling party will identify the tape desired by number, such as: "Tape #219 please." However, the caller may identify the tape by subject matter. For these cases it is essential that the tape librarians, very often volunteers, become familiar with the holdings of their individual tape libraries. When the proper tape is identified, it is selected from the storage rack, inserted into the tape deck, and begins to play. At this time three things happen automatically: the tape counter advances once, the calling party and the tape librarian hear the start of the tape, and the tape librarian's handset/headset mouthpiece disconnects so that no extraneous sound interferes with the caller listening to the tape. The tape librarian is free to handle the next call or to listen to the tape without interfering with the caller. The caller is connected to the playing tape and will continue to hear the recorded message until it stops. The answer lamp remains on a dim glow while the tape plays and goes out at the end of the message. When the answer light goes out the line is free for the next call, and the tape is ready to be replaced. The tape librarian removes the cartridge from the tape deck and returns it to the proper slot in the storage rack. An alternative approach is when there is a second cue tone on the cartridge. In this situation, the caller's line remains seized, and the answer lamp returns to the bright flashing hold condition advising the tape librarian to return to the line. The caller can then receive further assistance as outlined in other parts of this paper.

Volunteers involved in the operation of a Teletronix Information System, be it Tel-Med, Tel-Law, or CounseLine, experience a high degree of reward and reinforcement. Once a master schedule of assignments has been worked out, the staffing of a system is as trouble free and easy to maintain as the system itself. Teletronix assists in the selection of the tape librarians, providing specific guidelines for hiring a tape librarian or for selecting volunteers. At the time of installation the installer trains the staff, in many cases an entire contingent of volunteers, to operate the Teletronix System. During the training sessions the operators are given instruction on equipment operation, tape librarian telephone etiquette, handling nuisance and confusing calls, recognition of telephone and equipment malfunctions, routine maintenance and training in the use of the tape librarian manual.

The quality as defined for the tape librarian module is as follows:

1. The customer is provided accurate personnel criteria for selection of of the tape librarian.
2. The tape librarian is trained and motivated by Teletronix installation personnel.
3. The preparation of a clear and concise tape librarian operator's manual for ongoing support in systems operation.

Promotion

If the public is not aware of the program, the phone does not ring. The success of the Teletronix Information System relies heavily on the creative promotion of the programs. Teletronix services the total system and stays with the customer to show the customer innovative ways of making the service effectively known to the public. The bottom line is distribution of the tape library brochure with the single telephone number and a numerical listing of the library's tape holdings.

A complete description of all the methods used to promote Teletronix systems is a public relations topic too broad for the scope of this paper. Promotion begins when the Teletronix

Information System is first considered for introduction into a community. From then on it is an on-going operation. Promotions have a half-life of approximately three to six months; they must be continuously updated to maintain high call volume. Call volume is correlated directly to the amount of promotion undertaken.

Information is news. The introduction of a tape library into a community is a news item. Teletronix provides press kits for each program. This is the moment to present the message to the public with a news release issued in plenty of time, but not too soon. Newspapers, radio, and television in the community will be interested. Follow up the initial announcement with opening ceremonies. The amount of publicity generated by the opening of the program will depend on the creativity associated with it. The ideal is to secure a complete tape library listing with the single telephone number in the newspaper at this time. Good media coverage in the beginning makes follow-up stories easier to place.

The public must be made aware of the telephone number and the tape library listings. Brochures listing the telephone number and numerical listing of the library's tapes can be distributed in a number of ways. A systematic mailing through the telephone book spaces the expense of the mailing over several months. Less costly is the free distribution, and possibly printing, by companies or individuals interested in distributing the information as a public service. Banks have inserted brochures with monthly statements; utility companies have them with regular billings. The possibilities are investigated for each community. In some communities Tel-Med has managed to secure complete library listing in the telephone directory yellow pages.

One successful idea for on-going promotion of a program is to initiate a short daily or weekly column in the newspaper. The Tel-Med Quiz has worked well. A question spotlighting one Tel-Med tape is asked in the column and the reader must call Tel-Med and ask for that particular tape to check the correct answer. Once an individual is aware that medical information is available from Tel-Med, it occurs to the caller that a call to Tel-Med for assistance will provide the answer to a specific health care concern. Continuous media coverage and distribution of brochures are two of the effective methods for getting the information to the public.

Quality as defined for the promotion module is as follows:

1. Provide each customer with an awareness of the role of promotion in each program.
2. Provide a professional Press Kit with the opening of each new program.
3. Provide an on-going support Promotion Kit updated by newsletters to assure continuous promotion.
4. Provide personnel to work with troubled programs to improve promotion and increase call volume.

Conclusion

The success of Dial Access is measured almost solely by the number of calls. The quality of the American way of life demands that Dial Access quality is paramount. Billions spent for entertainment justify millions spent for instruction. The expansion of Dial Access through the $50 billion telephone network is only limited by the imagination. A growth projection with an annual call volume of 50 million calls is a reasonable forecast for 1985.

DESIGNING AND IMPLEMENTING A TELEPHONE INFORMATION RETRIEVAL NETWORK: THE CENTRAL STATION APPROACH

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Summary

Barbara Hatch is a typical housewife in Honolulu, Hawaii, about to open her door to get the morning mail. Today she will find a pleasant surprise in a new magazine ca'led "Tel-Life." Quickly thumbing through t she finds a listing of over a thousand topics ranging from health to finances to consumer topics about which she can obtain information by simply dialing her telephone. And at no cost! Many times she has wondered about personal health areas but felt embarrassed to ask even her doctor. Sometimes her children have asked questions that needed a quick factual answer and she didn't have the facts...answers to the "Dumb question" syndrome that effects everyone. Today Barbara and her family will be introduced to a whole new information world at her fingertips by just dialing her phone.

The information Barbara has access to is provided through a Central Station that is linked to her telephone. The means of providing this service comes through sponsorship from business and industry who are members of The American Council for Better Living. How this organization and the allied companies who support and make this service possible is the subject of this paper.

We used to talk about "The Ends of the Earth." Today, satellites are making those ends meet, shrinking the boundaries of communications. The telephone, radio, and television have made the world smaller. Technology has created the global village. In fact, one of the most influential factors contributing to the high American standard of living is our communications system. Our television, radio and the printed word are unparalled anywhere in the world and the American telephone system is superior to that of any country.

Although we have the tools for effective communication, they are not efficient in delivering the type of information needed to enhance the quality of our lives. The information that is being disseminated is so complex and the sources so diffuse that, for most people, obtaining specific types of information has become a hopeless struggle. For example, more than half the population is unaware of just what services the Federal Government provides, or how and where to use these services. With approximately 1,183 Federal departments and agencies, locating the correct sources of assistance may require countless phone calls, endless runarounds and many dead-ends. What should be a simple matter becomes a frustrating waste of time and effort.

Technology itself generates more new data about medicine, science, government, business, education, finance, the arts, and the world we live in faster than most of us can assimilate. Consumers find this an Information Jungle, a vast accumulation of knowledge that seems an impenetrable tangle of information often too technical to apply, too difficult to understand, or too time-consuming to investigate. Our society has become so complex that it is difficult obtaining the information needed just to cope. There are volumes of information in this age of specialization that we need, but know very little about. On the other hand, businesses, government, and public service organizations are equally entrapped. In their effort to disseminate important information, they find their message lost in the overgrowth of traditional communications media.

The telephone is the universal communications tool needed to make information available to anyone at any time. What is needed is a Network for sorting, organizing and delivering this information.

For nearly thirty years M. A. Wood Companies, Inc., has been "Bringing Ideas, People and Purposes Together," creating and developing information programs for medical, business, institutional, educational and industrial communities. Demand from clients, coupled with the desire to provide creative and innovative programs, precipitated entering the telecommunication/dial access/information retrieval industry.

To meet this demand, M. A. Wood Companies, Inc., has organized a consortium of companies, divisions and organizations. This consortium includes:

Courier Publications/Productions (CP/P)
Provider of the Data Bank & Supportive Services

Telephone Information Systems (TIS)
Developer and Provider of the Systems

American Council for Better Living (CBL)
A Non-Profit Association of Information Providers

TeleStations of American (TELSA)
A National Group of Dial Access Stations

TCN, Inc. (TCN)
A TeleCommunications Network

The objectives are to find a way out of the "jungle" - by developing a system for organizing, by simplifying vital information and by making it universally accessible. To efficiently and effectively meet the mutual needs of both information "users" and the information "providers", an overall plan is designed to satisfy the needs of two market segments.

1. The public wants and needs current information, advice and counsel to help enrich their lives. Access to this information should be free and provided in total privacy.

2. Institutions, associations, and businesses are searching for a simple, efficient method of making their vital information available to the public. The delivery system should be very cost effective and guarantee "delivered messages."

Audio information services, therefore, appeal to two separate but closely interrelated market segments - Information Users and Information Providers. The challenge of this consortium of companies will be the development of an information delivery system that concurrently satisfies these requirements.

The Concept

Linking stored information to the telephone system is not a new concept. Such things as a recorded message from the local theater and other answering devices are quite common. Some five years ago a medical society began making recorded medical information available by telephone. Other organizations such as the bar associations, universities and hospitals picked up the idea and attempted to start similar programs.

Providing the public with recorded information via the telephone has already been proven by others to be effective. To take advantage of the market testing already accomplished, to improve on the technique, and to apply the principle to a variety of areas where the need is evident, is sound business. The timing is perfect to take advantage of a new medium of communication that will surely be a major multi-million-dollar industry soon. Relying on the unique marketing concepts developed by M. A. Wood Companies, Inc., this consortium of companies is in a position to become one of the most significant and successful organizations in this relatively new field.

The Organization - An Overview

The Consortium is composed of three primary elements:

1. The Data Bank -- to include the gathering of information, program development, and the compilation of market data.

2. The System -- to include research, development, manufacture, installation, service, or outside acquisition of the machinery/equipment needed to provide information to the public in a simplified form.

3. The Organization -- to include the national, regional, and local marketing, the Telsa Area Agencies and Stations which will provide the insight, supervision, ability, tenacity and implementation of the programs.

Courier Publications/Productions: Provider of the Data Bank and Supportive Services

Tell-It-All Audio Library

Presently Courier Publications/Productions has gathered, simplified and catalogued information into over 1,000 subjects in ten categories including: Health, Hospital, Home Management, Money Management, Education, Self Improvement, Leisure, Travel, Consumerism and Law. A staff of five people internally as well as many outside writers, educators, and authorities, have labored in an on going effort over four years preparing subject material in script form. As each program is implemented, scripts are offered as a base for the individual programs being structured for TeleStation clients. For example, the Honolulu Optometric Association decided to sponsor the existing ten optometric tapes in the library. It worked with the Hawaii Station to expand its program to nineteen tapes and develop a joint promotion. Each subject is a matter for continuing research. Every script is periodically reviewed and updated. As a tape is sponsored, that organization interjects the latest developments and information concerning the subject, as well as local peculiarities. The listening audience is also a tremendous source of new developments. Courier has plans to expand its 1,000 tape, Tel-It-All Audio Library to 2,500 subjects by the end of 1979 and 4,000 by the end of 1980.

"Tel-Life" Magazine

Tel-Life Magazine

The primary vehicle used by a TeleStation to make its services and information available to the public, is Courier Publications/Productions "Tel-Life" magazine. The magazine contains a directory of all the library tapes and interesting articles designed to stimulate the reader to call the Stations and request the appropriate tape. In addition to the directory, the magazine features business and professional profiles, has local and national advertising and highlights information on speciality programs such as Astrology Line, Story Line, Weather Line, and others. For example, the Astrology Line allows the caller to dial a specific number for an individual astrological sign and hear a daily forcast. Story Line has children's stories, riddles, fables, and jokes by Honolulu's children's T.V. personality Pogo Poge. The magazine is similar in size to T.V. Guide and is hand delivered to every residence in the area serviced by the Station, generally on a quarterly basis. The forthcoming edition for the Island of Oahu will be 250,000 copies.

Telephone Information Systems:
Developer and Provider of the System

In order to link the public and the phone system with the TeleStation, equipment has been developed and manufactured by Telephone Information Systems (TIS). In the event TIS does not have the required piece of equipment, it developes or acquires it from other manufacturers if available. The manufacturing aspect of the market was entered because most of the equipment needed for a typical TeleStation was not available with all the features required for our total market approach at an affordable price.

The Telecom 450/SAM

The TeleCom 450/SAM is a semi-automatic tape console that can handle one to eight lines and messages simultaneously with total random access. The standard console design comes with one to eight deck configurations. Larger custom designs are also available. The machine requires an operator to answer the phone and play the cassette for the calling party.

The TeleCom 450/SAM features modular service. Play decks can be added or deleted according to the telephone call load. Each deck is fully unitized and electronically independent. This feature provides for virtually instant repair. Should one deck malfunction it can be simply by-passed and replaced without interrupting the entire console. Replacement is simple and can be done in less than five minutes. Continuous, total, factory warranty on all parts and labor is maintained under a low-cost monthly service contract.

Because the machine utilizes standard size cassettes, recording and updating does

TeleCom 450/SAM Tape Console

not require special or unusual equipment. Neither is special equipment required to cue the tape for pause, rewind, or to indicate an operator intercept message. An additional advantage of cassettes is that significantly less space is required to accommodate the machine and tapes than other systems using cartridges. A 2,000 tape library and system can be placed in the same amount of space as a comparable 300 tape cartridge library and system.

Special indicator lights built into each deck show when the phone is ringing, the caller is on the line, the answer deck is playing, the tape has finished playing and rewound, there is a malfunction in the machine or tape, or if operator intercept is needed. The operator intercept feature is an exclusive with the TeleCom 450/SAM. If, for example, the end of the tape would say "If you need additional information or assistance, please stay on the line and the operator will help you" or "If you would like to buy the product, please stay on the line and the operator will take your order," the operator intercept feature tells the operator to go back on the line after the message is completed.

Market research shows that TeleCom 450/SAM system is far less expensive to install, operate, and maintain than other similar cartridge systems. As mentioned, it takes up much less space, and the purchase price runs 20% to 30% less than comparable cartridge systems. This can mean a savings of $2,000 to $3,000 per console. Because of library/equipment logistics, less labor is required as the size of library and call load increases. "Tel-It-All" tapes run $6.75 each. Continuous update runs $2.75 per year which includes cost of duplication. Comparable cartridge tapes run $15 to $35 each. Also, because of the very nature of the continuous loop in a cartridge tape, the actual tape will not last nearly as long as the cassettes. The life of a cassette has

shown to have more than double the life of the larger and more expensive cartridge. In addition, the transport in the 450/SAM completely disengages during the rewind cycle, minimizing function and wear on the tape. The result is not only a saving of thousands of dollars on initial library costs, but maintenance and upkeep of the taped library provides for a substantial savings as well.

The TeleCom 450/SL1

The TeleCom 450/SL1 is a totally automated, single-line, single-deck player for sequential specialty programs such as Astrology Line and Story Line. It is also an effective tool for disseminating a single message such as a movie schedule or the stock report where the same message can be repeated many times over again and up-dates are frequent. A truly unique feature about the SL1 is its ability to stop and start again independent of the automatic rewind feature. At the end of the message, the machine can be coded to stop without rewinding, but disconnect the caller. When the next call comes in the machine starts to play again. For example, the Astrology Line message is 60 seconds long. There is a five-second introduction, a fifteen-second commercial message, and then forty-seconds of the Astrology message. The machine is coded to stop at the end of the message and disconnect the caller. When the next call comes, the tape plays the same introduction, then a different ad is recorded in, followed by the same Astrological message as before and so on. The same technique is used for Story Line and the other specialty programs.

The TeleCom 450/SL1 is also valuable for disseminating the same message especially if frequent updates are required. By utilizing standard cassettes, and a simple cueing system which requires no special equipment, messages can be updated anywhere, even over the phone, with ease and never having anymore than a few seconds of down-time on the machine.

The TeleCom 450/ML2

The TeleCom 450/ML2 is the ultimate multiple-line, single-message machine. Not only having all the features of the ML1, the ML2 offers more flexibility made possible by two decks with a microprocessor control unit. In this machine, one deck answers the machine and plays a message. Then without pause, it switches the caller to the second deck to hear another message. The importance of this feature is that it saves the amount of time to record the program by the length of the program multiplied by the number of advertisers. For example, with this machine all of the commercials for Story Line with an opening greeting would be placed once on one deck and the commercials with the story being played over and over again. While the message deck is playing the answer deck can respond to more calls and automatically feed them into the message deck when available.

The TeleCom 450/Omega

The information machine of the future that Telephone Information Systems has on the drawing board will be the TeleCom 450/Omega. It is an automatic version of the 450/SAM. This machine will hold 500 messages and will eliminate the need for the operator to handle the tapes. The caller simply dials the machine, listens to a brief message and a tone, then dials the specific message to be heard. An operator will be used to take orders or messages and to provide the operator intercept functions. It is anticipated that this machine will be available by Spring of 1981.

American Council For Better Living:
A Non-Profit Association
Of Information Providers

"Better Living-Through Helpful Information" is the theme of the Council for Better Living. CBL is an association of community businessmen and civic leaders dedicated to the practice of high business ethics, integrity, and service in order to make their communities better places to live, shop and work.

The ultimate goal of CBL is to provide the people of each community with an "information center." A place they can call by telephone any time to obtain helpful information about whom to trust for products and services. CBL solicits membership in this worthy organization, and then directs consumers of a city to those businesses who are CBL members.

Telestations Of America (TELSA): A National Group of Dial Access Stations

A TeleStation is "broadcast central" for the Tel-Life program. It is from this location that the TeleCom/450 and the Tel-It-All Audio Library are maintained.

Consumers call the Station for answers to questions; businessmen use the Station to advertise products; organizations, civic groups, schools, and government offices use the Station to make announcements, inform the public on local issues, and to answer questions.

The "voice" of TELSA is an electronic information retrieval machine known as the TeleCom/450 Series. This equipment controls incoming phone calls and outgoing messages.

A Station is owned and operated--usually--by a citizen of the community, although TCN, Inc. may be the proprietor. Some Stations operate only during the daylight hours, while others function 24 hours a day.

TCN, Inc. (TCN): A TeleCommunications Network

Because of man's constant search for the truth, plus new ways to make life easier and better, an overpowering mass of knowledge is being compiled at an accelerated rate. And because of the Four Dimensions -telephone/telegraph, radio, television, newspapers/magazines- a flow of information that never stops inundates all mankind.

Bombarded by knowledge, "average citizen" sometimes experiences difficulty sorting out this wealth of information, or does not know where to go to expand on those areas of particular interest. Subsequently, average citizen is lost in an information jungle.

People on every socio-economic level want to learn. They want information on a myriad of important subjects such as law, medicine, business, children, education, politics, sports, and home. But, they want access to knowledge on their own terms.

"Where," they ask repeatedly, "can we quickly and easily get qualified answers to our questions, and learn?"

TCN, Inc. (TeleCommunications Network), a franchise company, is an answer.

TCN is a "broadcasting" network combining the facilities of the TeleCom/450 Information System, the Tel-It-All Audio Library, TeleStations of America, Tel-Life magazine, and the Council for Better Living. Each plays an important role in the overall growth and success of TCN.

The Network has two basic functions. First, it helps to answer peoples' questions about what to do, where to go, and whom to ask to solve a problem or learn. Second, it's an advertising and public relations medium for any company, organization, institution, or political group wanting to get its message to the public easily.

Through extensive research and contract with national and local government agencies, associations, and institutions, TCN continues to gather pertinent information into simplified language to answer the thousands of questions asked by consumers daily.

The beginning of this program followed in-depth research that proved the vast accumulation of knowledge available to consumers was either too technical for most, or to difficult and time consuming to acquire. Businesses and organizations also complained that important consumer information messages were lost in the overgrowth.

It was obvious that a simple system was required to make this information easy to obtain and understand.

The TCN organization went to work on the problem. To expedite its efforts three working elements were created: Marketing, to implement programs and concepts; Research and Development, to gather, edit, and record information; and Engineering, to manufacture, install, and service equipment.

After more than two years of serious planning, dedicated research, and careful development, the TCN/TeleStation program is operational in California, Utah, Hawaii, and Nevada. In the current planning stage are Stations in the Western States, and eventually, 500 Franchise Stations are projected throughout the United States.

Through an added Dimension in Communications, a unified network of TCN/TeleStations is taming the information jungle.

DIRECT TELEPHONE ACCESS TO AUDIO CARTRIDGES

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I have read somewhere that knowledge or information is increasing at such a pace that during this century, man has gained more knowledge than existed in all of previous recorded time. This is an incredible mushrooming of data. Of obvious necessity, then, is the development of systems to get that knowledge to the people. A part of the systems will be dial access for broad dissemination to all parts of our country -- indeed, the world.

IGM, a division of Northwestern Technology, Inc., has been a pioneer in the communications industry, with the production of automation systems and taped music for radio broadcasting as early as the 1950's.

At first the industry used reel-to-reel equipment for most purposes, with cartridge equipment confined largely to single-cartridge playback devices. In the late 1960's and early 1970's, broadcast cartridge technology had advanced to the point that cartridges reproduced high quality sound, virtually equivalent to that of reel-to-reel tape. Simultaneous with the improvement in cartridges came sophisticated cartridge equipment.

Because of its long experience in radio broadcast sound or audio equipment, it was by natural progression that our company introduced a revolutionary breakthrough in cartridge playback -- the INSTACART, which provided instant random access to any cartridge in a 48-cartridge system, and maintained high fidelity besides.

The unit essentially swept the field, gaining wide acceptance. Almost a thousand radio stations of our nation and other countries use the Instacart at this time. The device has no direct competitor. To the best of our knowledge, no other company offers the instant random access capability.

With a long track record of reliability, then, IGM moved into other fields like museums, hotels, training systems, transportation announcement systems, and so on...those fields where reliability and redundancy are keenly needed.

A non-technical overview of the design of an Instacart is necessary to a general understanding of its use in central information retrieval systems and telephone access systems. Instacart is NOT a cassette unit. It uses continuous-loop, heavy-duty and high quality cartridges known as NAB-approved cartridges (meaning National Association of Broadcasters-approved). Some of the manufacturers of this type of cartridge include Audiopak, Fidelipac, Aristocart, and others.

The user records information on the tape, using a standard recorder such as an ITC RP0003. The tape cartridge is totally enclosed and protected from grit, dust, and from people. The cartridge is placed in the Instacart playback unit by merely placing it on a carrier tray, then sliding it into a slotted metal case.

Instacart uses one continuously rotating capstan shaft and a motor for each stack of 12 such cartridges. There is a play head and other electronics for each and every cartridge position. When a cartridge is called upon to play, a solenoid is energized and the cartridge carrier moves 1/16", permitting the tape to contact the play head. There is no other movement during play, resulting in excellent fidelity.

Each cartridge position also has its own pre-amp, which provides sufficient output to run a small speaker -- the type needed at an individual museum exhibit, for instance. The electrical leads or wires from each cartridge position are attached to such speaker or sets of speakers, and the sound effects or voice recorded on that particular tape are heard over such speaker(s). If one is operating a large number of speakers...or desires great volume such as in a P.A. system...he would add an amplifier to each such output from the Instacart.

Obviously, the Instacart cartridge must receive a signal from some source in order to actuate playback. Among those means are ordinary telephones...dial access. Individual cartridges on an Information Retrieval Instacart are accessible directly, without human

intervention, by dialing your telephone. We will explore the details a bit later in this discussion.

There are two general types of Instacarts. Type A plays one cartridge at a time to one output. This is the Instacart used in 800-900 radio broadcast stations around the world for playback of music and commercials, public service announcements, and so on. The fact that the Instacart is used for music tells you that the quality of sound will be far beyond what is needed for playback of voice alone; because reproduction of music is far more complex.

The Type B Instacart looks very similar to the Type A, but it can play any one, several or all of its cartridges simultaneously -- each to a separate output or outputs. Furthermore, on the same individual Type B or Information Retrieval Instacart, the user may mix cartridge positions with differing capabilities. Some cartridges may be actuated by telephone dial access, others on the same unit by push button, computer command, motion sensor, and diverse other means. With a mixed group of cartridge responsibilities, the Information Retrieval Instacart becomes a central audio unit. The electronics modules at each cartridge position govern the manner of actuation.

How do you achieve dial access to a cartridge? You may equip an IRI with all telephone access cartridges. In this event the unit becomes, in essence, a series of extensions emanating from a multiplex or centrex switchboard commonly used in hotels, hospitals, large businesses, schools, etc. All that is required to install such a unit is to provide one "local" or individual branch line from the main switchboard to each cartridge position to be used. Instacart is then plugged into a 110V outlet. Thereafter information placed on its cartridges may be accessed from any telephone in that company's system...without human intervention...a direct dialing of two to five numbers to the Instacart cartridge positions. It's really that simple.

Instacart now provides up to 7½ minutes of information to the person accessing a particular cartridge. Simultaneously, another person may be listening to a different cartridge containing different information. As many as 48 persons or groups of persons may be listening to the unit simultaneously, each receiving a separate and individual message, at the same time. No human intervention of any kind is required. It all depends on where you run the outputs from the unit -- to several phones, groups of headphones, or whatever.

For those of you who are involved in equipment installation, the Telephone Answering IRI is designed for direct connection to the telephone network. Each cartridge has a voice or audio track plus a second track used for cue tones. It answers incoming calls on the second ring and plays the taped message, disconnecting itself from the phone line at the end of the taped message, when a 1 kHz cue tone is detected -- in other words, "hanging up." Application has been made and should be received prior to publication of this paper, of the Instacart as type approved by the FCC under Part 68, "Connection of terminal equipment to the telephone network." It already is approved by the Public Utilities Commission of California for this purpose.

The audio reproducer section of the unit utilizes the latest in integrated circuit technology to reproduce the taped audio message and transmit it over the phone lines. The 1 kHz cue detector section uses a two pole active R-C filter and a level detector with hysteresis to provide for reliable cue tone detection. The 1 kHz cue tone is normally placed just before the beginning of the taped audio message. Thus, when the cue tone is detected and the cartridge stops playing, it is in the correct position to play the message again. The regulated power supply is provided by a 3-terminal fixed regulator which is, in turn, powered by the main power supply in the mainframe chassis.

At the time of installation of the unit, the telephone company provides a connector and cable from the telephone terminal board, usually located in a separate room of a business, to the Instacart unit. Theoretically, the telephone company's authority or responsibility ends with the terminal board, but it will provide a 25-pair connector cable to Instacart, a cable that meets specifications laid down by FCC, etc. When the Instacart is manufactured at IGM/NTI, we provide a harness for each 24 cartridges, which terminates in a connector plug to match the telephone company's connector cable. At the time of installation, therefore, the harnesses on the Instacart interface are plugged into the telephone company cable, the Instacart is plugged into a 110V receptacle, and it is ready to use.

Dial access cartridges such as those described above may also be actuated by attaching an outside trunk line, requiring one line per cartridge. In this manner, a person may dial the particular cartridge to listen to a prerecorded message. A person retaining an Instacart may manage a unit serving as many as 48 different clients -- each with his own special line coming into the unit.

Still another dial access use is the situation where one wants five or ten incoming lines to access any one of the 48 cartridges in the system. IGM's designers have made preliminary

surveys of the problem, determining that a matrix to achieve this type of access is entirely practical from either touch tone or dial telephones. However, the company has not yet undertaken the design of such a unit. It has been placed on the engineering pending product design list for eventual development but with no particular timetable scheduled at this juncture. Demand for such a unit and the economic factors applicable will affect the priority of the development.

To illustrate the in-house telephone access use of Instacart, it is useful to describe a particular installation -- that at the Hyatt Regency San Francisco. This hotel caters to a very diverse clientele, international in character, with many foreign guests. It installed an Instacart in its phone room in the basement, the closest point to the telephone terminal connections. Through interface to the telephone system, as described in the previous paragraphs, the cartridge positions are now an integral part of the in-house telephone system. Guests dial the numbers from 201 to 245 to access directly a suitable cartridge for the pre-taped message desired. Hotel information on nine different subjects has been recorded in five different languages (English, Spanish, French, German, and Japanese), each message on a different cartridge. Three messages that receive extra-heavy utilization are provided in duplicate. Thus, when the first cartridge is busy, the unit automatically moves to the second cartridge containing a duplicate message. In each guest room there is a card -- also in five languages -- which direct the guest as to which number to dial for the desired information. (See illustration attached.)

The Instacart not only is accessible to the guests in their rooms, but to the desk clerks, bellmen, and any other telephone in the hotel. In practical use, it is often useful for such personnel to refer foreign guests to the dial-access information bank. Occasionally, even incoming calls from the outside may be connected to the Instacart by the hotel operator working at the switchboard.

Recording of the tapes is a simple, routine matter involving a quality recorder, plus suitable announcers with pleasing voices. A hotel or business desiring to change the messages on tapes frequently may purchase such a recorder and produce new tapes as desired. Indeed, this is a feature useful to hotels that deal with conventions. Special information may be placed on several cartridges for each different convention.

We have inquiries about the use of Instacart for in-house management information. The operation of such system would be exactly the same as that for hotel use. Taped information on cartridges would be available to anyone in the firm, simply by dialing the desired cartridge number.

Naturally, the telephone access Instacart may be utilized by using operator intervention as well. In such case, the operator merely dials the desired cartridge to connect the caller to the cartridge, then leaves the line.

While this conference deals with dial access primarily, it is necessary to mention the capabilities other than playback by dial access, because on one Instacart unit, the cartridge positions may be accessed by different means -- some by dial or telephone access, others by push button, rubber pad on which the listener stands in front of an exhibit, by computer command, etc. Indeed, at the National Geographic Museum in Washington D.C., motion sensors and tiny speakers are contained in large stuffed animals comprising a children's exhibit. When jostled, an animal appears to speak, giving the cry peculiar to its kind. The sound is taped and played back from an individual Instacart cartridge -- several dozen feel distant in a back room, out of the hands of children and others.

In the same museum, certain cartridges are dedicated to dial access -- the provision of after-hours information. Still others are actuated by push button at different exhibits. Another cartridge or two provides data converted by a character generator to read out on a CRT screen used for CCTV.

A new installation just going into the San Francisco International Airport involves an Instacart as part of a display board that gives information to arriving passengers. As part of the display, push buttons and a telephone headset give international visitors an opportunity to depress a suitable button to receive data in certain foreign languages. This is not a telephone or dial access situation, but could be achieved just as well by using a telephone touch-tone unit.

An exceedingly unique use of the telephone answering Instacart was made by the past Olympic Committee in Canada. We take efficient telephone systems for granted in this country and Canada -- but things are definitely different in most foreign countries, especially the so-called underdeveloped nations. Because news services in all parts of the world were standing by to receive last-minute information about winners in the various contests, CBC used an Instacart simply to hold phone lines open to different countries all the time. A recorded message was placed on an Instacart cartridge in the language of the country involved, which merely said over and over

something like, "This line is in use, do not hang up, information will be received soon." In other words, once the connection to, say, Morocco, was achieved, that long-distance capability was maintained continuously. Whenever the newsmen wanted to report a new score or comment, the connection was open and the news could be transmitted. When the Olympic Games were over, it was our understanding that the same technique was to be used at certain other major events in Canada -- transferring the Instacart to wherever the need arose. Frankly, we have lost track of this unit entirely at this point, and no longer know what is being done by CBC or others in charge of the unit.

The National Library of Medicine in Bethesda, Maryland, is currently investigating a fascinating new approach to dissemination of medical information at its Lister Hill National Center for Biomedical Communcations. The head of the research project is James Main, assisted by David Prophet. A basic part of the system being developed includes an Instacart for direct access to cartridges.

The current status of the project grew out of another effort at Lister Hill National Center, an information transfer project where personnel were trying to translate new research or findings and get it into the hands of medical practitioners. The particular field of viral hepatitis was selected as the subject of the pilot project because information is growing and changing rapidly on this aspect of medicine. The program people first went through the existing literature and synthesized the state of knowledge at a given time. This data was then entered into a data base to be searched and reviewed from a CRT terminal. The Center used a minicomputer already at the library to handle the job. Practitioners who have a suitable CRT terminal can research and read the data from their offices. The maintenance of the information is through computer conferencing with the selected experts who provide input, each making comments on the findings of all those reporting until there is a "general consensus." Such conclusions are then placed in the updated data base.

However, not everyone has a CRT terminal from which to access the main data base at the Lister Hill Center, so the team investigated the practicability of using telephone access to the information.

Data gleaned from questions, answers and consensus of experts has been placed on audio tapes in the Instacart unit. In the experimental system, Main is using a standard Type A Instacart, the broadcast type which plays only one cartridge at a time upon command. After evaluation of the program, it is probable that the system will be drastically altered to provide greater simultaneous access, because now only one person can be accessing the system. The Information Retrieval Instacart would, of course, provide this capability.

The Lister Hill installation has 44 tapes in the unit at this time. For the initial state of the project, a selected group of practitioners in the Washington area has been furnished with a numbered listing of subjects contained on the cartridges in Instacart. When the practitioner calls the telephone number listed, he first accesses an introductory tape which verifies that he has indeed reached the information center and should now depress two more keys on his phone to gain access to a particular cartridges (selected from his printed list). A microprocessor-based switcher interprets the tones transmitted and selects the proper cartridge. At present, provisions for direct access have been made only for touch tone telephone; no dial analysis device is being used.

According to Main, the technical aspects of the audio access system are working admirably. Now the project is being scrutinized for other factors: How many practitioners use the unit? What kinds of questions do they want to have answered? How often is the unit accessed? Reaction from the selected group has been very favorable to date. In about two months the evaluation of the project will be complete, and its fate decided -- whether to expand the project or turn in another direction.

Cost comparisons are always of vital interest to any company installing new systems. An assortment of small cartridge systems has been on the market for some time, involving telephone access for one to three cartridges. According to the analysis of our sales department, if you intend to install now or expand later a telephone dial access system of more than four cartridges...an Instacart unit permitting eventual expansion to TWENTY FOUR positions is cost competitive at four cartridges, and maintenance should also be considered, of course, and in these areas the Instacart's radio broadcasting use truly speaks for itself.

IGM/NTI intends to continue its development of telephone dial access information systems, which will involve chiefly the variances on the access itself -- because the cartridge playback equipment is already very sophisticated and well-proven.

While not pertaining directly to dial access, additional information about certain other information retrieval systems might be of interest to you at the conference.

At Bay Area Rapid Transit, the automated train system in San Francisco known affectionately as BART, an Instacart unit is accessed from a central keyboard in BART's control room. The operator uses the remote control unit to actuate pre-recorded messages to any one station or groups of stations of the 34 BART computer points. The system is hooked up so that the controller may send message 24, for instance, to stations 1, 9, 14, and 22, while message 19 is going out to stations 3, 4, 5, 7...or whatever. New messages are taped almost daily for inclusion in the system, to update the information being transmitted. Messages that are permanently included in the system involve security or emergency instructions of various kinds, certain schedule information that changes little, etc.

At several high-rise office buildings across the nation, Instacart comprises a portion of a total building monitor system. It is programmed and provided with pre-taped voice evacuation instructions to meet differing security, fire, and other needs in the buildings. At Seattle's Federal Office Building, where the notorious George Jackson Brigade has made repeated bomb threats during the restless 1970's, the security messages have gotten a workout.

In Belleville, Illinois, there is a 200-acre garden, a Catholic shrine called the Shrine of Our Lady of the Snows. Pilgrims to the shrine come to worship and meditate. A part of the garden is called the "Way of the Cross," which in the Catholic religion comprises fourteen stations. At Our Lady of the Snows, fourteen points of meditation are installed along a secluded, winding path through part of the garden. Statuary and shrubbery are used to create the desired meditational mood. At each of the fourteen points, there is an unobtrusive plaque containing three buttons. A speaker is hidden in the area. The visitor depresses one of the three buttons to receive (1) a message in traditional Catholic terminology, (2) a more modern inspirational message, or (3) music. All of this data is contained on 42 Instacart cartridges on the unit maintained in a central building. The other six cartridges of the 48-cart unit are used for general information dissemination near the gates and on the grounds.

Emergency instructions are pre-taped on Instacart at NASA, Huntsville, Alabama, part of the overall security and grounds monitoring. When actuated, a message contained on a cartridge goes out over 1,300 speakers on the base. The pre-taped voice instructions are necessary, among other reasons, to cope with a high incidence of tornadoes in this region. There is no time to consider what instructions should be given verbally -- all that is required is to depress a suitable button and a pre-taped, logical set of data is actuated.

Having entered the information retrieval field less than three years ago, our firm has potential applications that arise almost daily. A firm that gives tours of its large factory to many foreign visitors is considering Instacart. It would record explanations of the manufacturing process in many languages. Speakers are stationed at several points throughout the factory. Therefore, when Japanese visitors come through, all Japanese cartridges would be placed on the Instacart unit...for other visitors, other languages.

Another major firm is contemplating a central training facility where the Instacart would provide pre-taped instructional material to two dozen classrooms simultaneously, also synchronizing the changes of slide projectors through the use of the cue track on the cartridge.

Many theme parks and museums are either contemplating or have ordered such units to provide the variable sound effects required in creating realism in different exhibits.

Common to all of the above uses is a combination use, where a few cartridges may be used to handle incoming telephone inquiries, disseminating information by dial access -- while other cartridges on the same system provide central information retrieval for diverse audio purposes.

IGM division of Northwestern Technology, Inc., wishes to thank the University of Wisconsin for the opportunity of presenting a paper. We hope that our efforts have helped to increase the store of data about information retrieval systems -- especially dial access means.